# BULLETIN

OF

# THE STATE COLLEGE OF KENTUCKY.

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## CATALOGUE

FOR THE THIRTY-NINTH SESSION.

1904--1905.

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# CATALOGUE

OF THE

OFFICERS, STUDIES, AND STUDENTS

OF THE

# STATE COLLEGE OF KENTUCKY,

LEXINGTON,

WITH A PART OF THE REGULATIONS.

FOR THE

SESSION ENDING JUNE 1, 1905.

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LEXINGTON:
PRESS OF JAMES M. BYRNES,
1905.

## PATTERSON HALL.

This Hall, a home for the young women of the College, is a large and handsome three-story structure of about a hundred and fifty feet front, built on a fine site of more than three acres lying along the electric railway on South Limestone Street. Within a quarter of a mile of the College on the south, a half mile of the Court House, the Phoenix Hotel and the Post-office on the north, and distant not more than ten minutes by rail from the principal churches of the city, Patterson Hall is, for all purposes, admirably located. The building is heated by steam, lighted by gas and electricity, and supplied with the purest of water. It has a roomy front porch of 12 by 70 feet, wide halls, a closet in every bed room, and thirteen bath rooms. With walks, drives and numerous old forest trees, the spacious front lawn is an inviting place for exercise, for which ample provision has also been made on the extensive grounds, with a tennis court, in the rear, as well as in the large gymnasium.

Sixty-two commodious and well-furnished rooms afford accommodation for a hundred and twenty-four occupants for whom the careful and judicious matron will provide lodging free, and excellent board for $3 a week, the inmates furnishing their own napkins and towels, and their own bedding, except mattresses and pillows, and paying their laundry bills.

Built durably of stone, brick, wood and iron, and made practically fireproof, at a cost of $60,000; with adequate provision for heat, light, ventilation, bathing and exercise, this Hall offers all the comforts and conveniences of a well-appointed home.

County appointees are first supplied with rooms, and these, by act of the Legislature, are assigned by lot.

Probably no educational institution in the South affords a more attractive home for young women; and those who are favored with a county appointment, the mode of obtaining which is set forth elsewhere in this catalogue, will find that residence at The State College is brought within the means of any young woman who earnestly desires to fit herself for a life of usefulness.

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PRINTER'S ERRATUM : McCauley's for Macaulay's, page 13.

# THE STATE COLLEGE OF KENTUCKY.

## HISTORY.

AGRICULTURAL and Mechanical Colleges in the United States owe their origin to an act of Congress entitled "An Act Donating Public Lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts," approved July 2, 1862. The amount of land donated was 30,000 acres for each representative in the National Congress. Under this allotment Kentucky received 330,000 acres. Several years elapsed before the Commonwealth established an Agricultural and Mechanical College under this act. When established it was not placed upon an independent basis, but was made one of the Colleges of Kentucky University, to which institution the annual interest of the proceeds of the Congressional land grant was to be given for the purpose of carrying on its operations. The land-scrip had meanwhile been sold for fifty cents per acre, and the amount received—$165,000—invested in six per cent. Kentucky State bonds, of which the State became custodian in trust for the College.

The connection with Kentucky University continued till 1878, when the act of 1865, making it one of the Colleges of said University, was repealed; and a Commission was appointed to recommend to the Legislature of 1879-80 a plan of organization for an institution, including an Agricultural and Mechanical College, such as the necessities of the Commonwealth required. The city of Lexington offered to the Commission (which was also authorized to recommend to the General Assembly the place which, all things considered, offered the best and greatest inducements for the future and permanent location of the College,) the City Park, containing fifty-two acres of land within the limits of the city, and thirty thousand dollars of city bonds for the erection of buildings. This offer the county of Fayette supplemented by twenty thousand dollars in county bonds, to be used either for the erection of buildings or for the purchase of land. The offers of the city of Lexington and the county of Fayette were accepted by the General Assembly.

By the act of incorporation and the amendments thereto, constituting the charter of the Agricultural and Mechanical College of Kentucky, liberal provision is made for educating, free of tuition, the energetic young men of the Commonwealth whose means are limited. The Normal Department, for which provision is also made, is intended to aid in building up the Common School system by furnishing properly qualified teachers. This College, with the additional departments which shall, from time to time, be opened as the means placed at the disposal of the Trustees allow, will, it is hoped, in the not distant future do a great work in advancing the educational interest of Kentucky. Being entirely undenominational in its character, it will appeal with confidence to the people of all creeds and of no creed, and will endeavor,

in strict conformity with the requirements of its organic law, to afford equal advantages to all, exclusive advantages to none. The liberality of the Commonwealth in supplementing the inadequate annual income arising from the proceeds of the land-scrip invested in State bonds, has enabled the Trustees to begin and carry on, upon a scale commensurate with the wants of our people, the operations of the institution whose management and oversigh have been committed to them by the General Assembly of Kentucky.

## SCOPE OF STUDIES.

In the act of Congress making provision for the class of colleges to which the State College partly belongs, it is declared "that their leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." To the three departments of agriculture, the mechanic arts, and military science, contemplated in the act as indispensable, a Normal School has been added by the State and an Experimental Station by the United States, while liberal provision has been made for instruction in all branches of science and in the classics, so that this institution is far more than an agricultural and mechanical college, embracing, as it does, not merely the three original departments, but fifteen others.

## THE NORMAL SCHOOL.

The Normal Department of the State College exists under the authority of acts of the General Assembly approved April 23, and April 29, 1880. Section 7 of the first act briefly defines the object for which the Department was established, "a Normal Department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the College." The second act provides the necessary endowment to make the Department effective.

Ten years ago, in order to prepare young men and women for doing the highest work in their chosen profession, the Department of Pedagogy was established, with a four years' collegiate course, offering Pedagogy as a major study. The attendance upon this course has steadily increased, and the work done has been of a high order.

## THE KENTUCKY EXPERIMENT STATION.

The Agricultural Experiment Station of the State College of Kentucky was established by the Executive Committee of the Board of Trustees in September 1885, when the Department was organized and a Director appointed. In 1886 the Station was recognized and named by the General Assembly, and in 1887 it became the beneficiary of the first annual appropriation of $15,000 under the Hatch act providing for the establishment of Agricultural Experiment Stations in the several States and Territories.

The work of the Station is directed to two objects: 1. To a constant

succession of experiments made by specialists, in order to learn what applications of science will insure the best returns from the farm, the garden, the orchard, the vineyard, the stockyard, and the dairy. 2. To the publication of bulletins announcing such results of the experiments as are found to be valuable to those of the people of Kentucky who seek profit from any of those prime sources of wealth—the soil, the flock, and the herd.

Results of experiments have been published in fourteen annual reports and one hundred and eighteen bulletins, and general appreciation of their utility is shown in the fact that, while no bulletin is sent except upon application for it, the mailing list of the Station contains about 9,000 names, and is ever increasing.

With an ample endowment, a large and commodious building planned for the purpose, adequate apparatus, a good experimental farm conveniently situated, and a staff of fifteen scientists engaged in seven divisions of research and in correspondence with other stations, the Kentucky Experiment Station is not only an important adjunct to the College in the education of students for the leading industrial pursuits, but, directly or indirectly through the wide and continual diffusion of knowledge for the benefit of so large a proportion of our population, it is bound to be extremely useful to the Commonwealth at large.

## LOCATION.

The State College of Kentucky is established in the Old City Park, just within the southern boundary of Lexington and near the Cincinnati Southern Railway. The site is elevated and commands a good view of much of the city and of the surrounding country.

Lexington, now a growing city of thirty-odd thousand inhabitants, is in the heart of the far-famed Bluegrass region, a region distinguished for fertility and healthfulness, wealth and beauty. Numerous schools and churches, an intelligent and refined population, well paved streets, handsome buildings, extensive water-works, and an unsurpassed system of street electric railways make Lexington attractive as a seat of learning and place of residence, while the splendid stock farms scattered over the large body of fertile country around it afford advantages hardly equaled elsewhere for the student who desires to become familiar with the best breeds of horses, cattle, sheep, and swine in America. Moreover, with railroads diverging in seven directions, Lexington is the railroad center of Kentucky, and in direct connection with Louisville, Cincinnati, Maysville, Huntington, and Chattanooga, and with more than seventy counties of the Commonwealth. And when to the electric railways now in operation to Georgetown and Paris, that to Versailles, to be opened in 1905, and those projected to Winchester, Richmond, and Nicholasville shall be added, the hourly trains of these six roads will enable students to attend the College conveniently from their homes as far as twenty miles away.

## GROUNDS.

The campus of the College consists of fifty-two acres of land, located within the corporate limits of Lexington. The South Limestone electric

car line extends along the western border of the campus, affording opportunity to reach in a few minutes any part of the city. The campus is laid out in walks, drives, and lawns, and is planted with a choice variety of native and exotic trees and shrubs, to which additions are constantly being made. A portion of the land has recently been reserved for a botanical garden, in which will be grown the most desirable native plants, with a view to testing their adaptability to cultivation and to giving increased facilities to students taking agricultural and biological courses. Two and a half acres, forming the northeast portion of the campus, inclosed and provided with a grand stand, are devoted to the field sports of the students.

About three-quarters of a mile south of the campus, on the Nicholasville pike, an extension of South Limestone street, is the Experiment Station Farm, consisting of about two hundred and three acres. Here the field experiments of the Station are conducted, and students have opportunities to witness tests of varieties of field crops, dairy tests, fertilizer tests, fruit-spraying tests; in short, all the scientific experimentation of a thoroughly equipped and organized Station. The front of the farm is pasture and orchard. The back portion is divided off into two hundred one-tenth acre plots, for convenience in making crop tests.

## BUILDINGS.

*The Main Building.*—This is a structure of stone and brick, 140 feet long and 68 feet in width. It contains the office of the President and of the Business Agent, and on the third floor, counting the basement floor as one, is the chapel, in which each day the students and the Faculty meet for worship, and in which are held public gatherings and such other meetings as bring together the entire student body. The remaining space in this building is occupied by recitation rooms.

*The Old Station Building.*—This handsome structure is well planned for the object for which it was built. It is seventy feet in length and fifty-four feet in width, with a tower projection in front, and an octagonal projection eighteen by eighteen on the north side. The building is two stories high, upon a basement eleven feet from floor to ceiling. The main entrance is on the first floor, on the west side of the building, through an archway fifteen feet wide.

This building is henceforth to be dedicated exclusively to the Department of Chemistry.

*Mechanical Hall.*—This building covers altogether an area of about 20,000 square feet, is constructed of stone and pressed brick, and is well furnished with machinery and appliances for work in Mechanical Engineering.

*The Dormitories.*—The two large dormitories on the campus afford lodgings for the students who wish to lessen expense in this direction. Other buildings on the campus are a brick dwelling for the President and a cottage occupied by the Commandant.

*Science Hall.*—This hall, built during the year 1897 for the departments

of Natural Science, is 96 x 97 feet, of pressed brick, trimmed with Bowling Green stone. The wide halls, the numerous and spacious lecture rooms, laboratories and offices in its three stories are conveniently arranged, well lighted, and the rooms are well furnished.

*The Farm Buildings.*—On the farm is a brick dwelling occupied by the Director of the Station, and the usual buildings for the care of tools, the protection of stock, and the like.

*The Gymnasium.*—This imposing structure of pressed brick and Bedford stone, 100 x 157 feet, with the central part three stories high, the right wing one and the left two, has just been completed, 150 feet north of the Main Building, at a cost of $30,000.

The first floor of the central portion contains the Armory, lockers for women, and the offices of the Commandant and the Physical Director. The second floor is occupied by Alumni Hall, the Trustees' room, and a society hall. The third floor is divided into two society halls and a hall for the Y. M. C. A. All these rooms are commodious and finely adapted to their purpose. The right wing, which is 48 x 95 feet, is used as a drill-room during bad weather. The basement of the left wing is set apart for baths, lockers for men, wash-stands, closets, and a swimming pool. The second floor, the gymnasium proper, is splendidly equipped with the best apparatus that could be procured.

The building is finished in yellow pine, heated by steam, and lighted by electricity.

*The New Station Building.*—This house, on South Limestone, and a fourth of a mile from the campus, was completed in the winter of 1904.

The building is of two stories and the basement, of pressed brick with oolitic limestone-trimmings. The foundation is of Kentucky gray limestone, faced with broken ashlar oolitic limestone, the balustrade of terra-cotta. A large portico, with columns extending from the first floor line to the pediment on a level with the cornice, forms an attractive feature of the building. The cornice is massive, with large brackets.

The general design of the building, which is 114 feet long x 60 deep, is colonial, adhering as strictly as possible to classic proportions and combinations.

*Patterson Hall.*—This large and handsome three-story structure, a home for the young women of the College, is now ready for occupancy. Pleasantly located on South Limestone street, a fourth of a mile north of the College, and on the street railway which lies along the western border of the spacious grounds; built durably of brick, stone, iron and wood, and made practically fire-proof; with long and wide porches and with a large closet in every room; with adequate provision for light, heat, ventilation and exercise, this Hall offers to 124 occupants, two in a room, everything needed for their health, safety, convenience, comfort and physical culture.

Cost of ground, building and equipment, $60,000.

## DEVELOPMENT.

The growth of the College from year to year is shown as follows:

1862, To establish and endow a college, chiefly for instruction in agriculture and the mechanic arts, an act of Congress apportioned to each State, for each of its Senators and Representatives in Congress, 30.000 acres of the public land.

1865. The General Assembly of Kentucky having accepted the State's portion under the conditions prescribed, established the Agricultural and Mechanieal College, making it one of the colleges of Kentucky University, then recently united with Transylvania University and located at Lexington, citizens of Lexington and its vicinity donating $110,000 to the Curators of the University to buy a site for the College. The General Assembly having authorized the Commissioners of the Sinking Fund to sell the 330,000 acres apportioned to Kentucky, by the mismanagement of the Commissioners' agent the State realized for its land only $165,000.

1866. The College opened with a President, four Professors, and a Commandant.

1878. Dissatisfied with the management of the College by the Curators, who were engaged in a long factional strife, the General Assembly severed the connection with the University, and appointed a commission to re-locate the College, to provide for its continuance in operation till re-located, and to prepare "a plan for a first-class University." Kentucky University claiming and retaining the former site of the College, the sole property of the latter after the severance was an income of $9,900 derived from the land grant.

1880. The City of Lexington offering the City Park of fifty-two acres as a new site for the College, and also $30,000 in bonds, and the County of Fayette offering $20,000 besides, the General Assembly ratified the selection of the site made by a majority of the commission, and located the College permanently in Lexington.

1880. To privide teachers for the Common Schools of the State and for other schools the General Assembly added to the College a Normal Department, which should admit, besides other students, one from each representative district every year free of tuition.

1880. Further to endow the College and to enable it to purchase apparatus, machinery, implements, and a library; to maintain the Normal Department, and to defray other necessary expenses, the General Assembly imposed a tax of one-half cent on each hundred dollars of the assessed value of all property in the State liable to taxation for State revenue and belonging to its white inhabitants.

1880. The Classical and Normal Departments, and the Academy added.

1882- The College Building, the First Dormitory, and the President's house completed.

1885. The Commandant's House reconstructed.

1887. To enlarge by experiments and to diffuse the knowledge of agriculture, an act of Congress established, under the direction of the Agricultural and Mechanical College in each State, an Agricultural Experiment Station, appropriating for its support $15,000 per annum.

1887. The Department of Civil Engineering established, an experimental farm of forty-eight acres purchased, and the College greenhouse built.

1889. The Experiment Station Building completed.

1890. The Second Dormitory completed.

1890. For "the more complete endowment" of Agricultural and Mechanical Colleges, an act of Congress appropriated to each State $15,000 for the year ending June 30, 1890, and the same sum with an increase of $1.000 per annum for ten years, after which the maximum of $25,000 should continue without change. Of the amount thus annually appropriated, the College receives 85 per cent. and the school of the colored people at Frankfort 15 per cent.

1891. The Department of Mechanical Engineering established.

1891. The Department of Anatomy and Physiology established.

1892. The Mechanical Building and Workshops completed.

1894. Greenhouses for the Experiment Station built.

1894. The Department of Physics established.

1895. The Annex to the Mechanical Building and the Insectarium for the Station built.

1897. The Department of Electrical Engineering established. Additions made to the Greenhouses and Insectarium.

1898. The building for Natural Science completed.

1898. Sixty-four and a half acres added to the Experimental Farm, making 113 in all.

1900. Sixty thousand dollars appropriated by the General Assembly for a Collegiate Home for Young Women, for a Gymnasium and Drill Room, and a Hall for the Y. M. C. A.

1901. Ninety acres added to the Experimental Farm, making 203 in all. The building erected containing the Gymnasium, the Drill Room, the Halls for the Societies and the Y. M. C. A.

1901. The Department of Mining Engineering added.

1902. Thirty thousand dollars additional appropriated by the General Assembly for the Young Women's College Home, making $60,000 in all.

1904. Patterson Hall, the Young Women's College Home, completed.

1904. Fifteen thousand dollars per annum appropriated by the General Assembly to defray the expenses of the College.

1905. The New Experiment Station completed.

*Increase of Property.*—The property of the College is estimated to be worth $800,000 more than it was in 1880.

*Increase of Courses.*—Before 1880 the College offered a single course of study leading to a degree; it now offers nine.

*Increase of Teachers.*—Before 1880 the College had six Professors; it now has seventeen Professors and thirty-two assistants.

*Increase of Students.*—The number enrolled during the session of 1898-99 was about 480, considerably the largest till then in the history of the College; for 1899-1900 the number was 563; for 1900-1901 it was 614; for 1901-1902 it was 594; for 1903-1904 it was 732.

*Increase of Graduates.*—No fact more distinctly marks the growth of the College than the increase in the number of its graduates. More students have been graduated during the last three years than were graduated during the first thirty.

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## U. S. WEATHER BUREAU.

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There has been established at the College by the U. S. Department of Agriculture a Station of the Weather Bureau, with first-class instrumental equipment, and working in close connection with the College and the Experiment Station. Students who are interested in the study of meteorology and kindred sciences will find at this Station of the Bureau a rare chance for special investigation, and they are welcome to such benefits as the Station affords.

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## ADMISSION.

A student is admitted to the State College in one of six ways:

I. By examination.
II. By certificate from an accredited school.
III. By certificate from the College Academy.
IV. By transfer of credits from a college or university.
V. As a special student.
VI. By certificate from the Normal School.

### I. ADMISSION BY EXAMINATION.

For the Freshman Class students are examined on the following :

1. IN ENGLISH.—(*a*) On Advanced Grammar. Selections for analysis and parsing are arranged to test the candidate's knowledge of the structure of the language. (*b*) On Rhetoric and Composition. The candidate is required to write two essays of not less than two hundred words each, one on a subject taken from a prescribed work of some standard author, the other on a subject chosen by the candidate. The books from which subjects will be taken are: Burke's Speech on *Conciliation with the Colonies;* Shakespeare's *Macbeth;* Milton's *L'Allegro*, *Il Penseroso*, *Comus*, *and Lycidas;* McCauley's essays on *Milton* and *Addison*. Shakespeare's *Merchant of Venice* and *Julius Cæsar;* Addison's *Sir Roger de Coverley Papers;* Goldsmith's *Vicar of Wakefield;* Coleridge's *Ancient Mariner;* Scott's *Ivanhoe;* Carlyle's essay on *Burns;* Tennyson's *Princess;* Lowell's *Vision of Sir Launfal* and George Eliot's *Silas Marner*.

For a connected account of these books and of their authors Halleck's History of Engliih Literature is recommended. The candidate must be familiar with the plots, incidents and characters of each work, and be prepared to show his ability to write correct English. No candidate will be admitted whose work is notably deficient in a knowledge of spelling, punctnation, paragraphing, and syntax.

2. IN HISTORY.—(*a*) On Eggleston's History of the United States, or an equivalent. (*b*) On General History, in amount equivalent to Anderson's or Myers' General History.

3. IN GEOGRAPHY.—(*a*) On Advanced Descriptive, Mathematical, and

Political Geography, as presented in Butler's Complete, or The Natural Advanced, Geography. (*b*) On Physical Geography, as presented by Tarr or Davis.

4. IN MATHEMATICS.—(*a*) On Arithmetic. A thorough knowledge of the subject is required. (*b*) On Algebra. The student must show a thorough knowledge of the subject as presented iu Wentworth's Higher Algebra, including factors, common divisors and multiples, fractions, involution, embracing the binominal theorem for positive integral exponents, evolution, theory of exponents, radicals, imaginary quantities, inequalities, equations of the first and second degrees involving one or more unknown quantities, equations solved like quadratics, simple indeterminate equations, and equations involving radicals. The student is expected to state and explain the reason for every step in his work. (*c*) On Geometry. The student must exhibit a knowledge of the subject as treated in books I to V inclusive of Beman and Smith's Geometry, including the larger part of the matter relating to triangles, parallels and parallelograms, polygons and circles, as presented in the best American text-books. The student should be able to apply the principles of Geometry to practical examples, to construct diagrams quickly and accurately. In proving a theorem or solving a problem he should be able to prove every statement made, by going back, step by step, till he rests on primary definitions and axioms.

5. IN LATIN.—On genders, declensions, conjugations, syntax, and idioms as they are treated in Smiley and Storke's Beginner's Latin Book; Viri Romæ; ten lives of Nepos; five books of Cæsar; Daniell's New Latin Composition; Creighton's History of Rome; Guerber's Myths of Greece and Rome.

Strict attention must be paid to quantity and accent.

6. IN GREEK.—On genders, declensions, conjugations, accents, syntax, and idioms, as they are treated in White's Beginner's Greek Book; Moss' Greek Reader; five books of Xenophon's Anabasis; Pearson's Greek Prose Composition; Oman's History of Greece.

Equivalents are accepted in both Latin and Greek.

Candidates for admission to the courses in Science, Agriculture, Mechanical and Civil Engineering will be examined on 1, 2, 3, and 4.

Candidates for admission to the Course in Pedagogy will be examined in 1, 2 (*a*), 3 (*a*), 4, and 5.

Candidates for admission to the course in Classics will be examined on 1, 2 (*a*), 3 (*a*), 4, 5, and 6. If French and German be substituted for Greek, 6 will be omitted.

### II. ADMISSION FROM AN ACCREDITED SCHOOL.

An applicant for admission to a class in the College who presents from the Principal or Superintendent of an accredited school a certificate that he has duly completed the courses of study prescribed for admission to that class will receive from the President of the College a permit entitling him to admission thereto without further examination.

The list of accredited schools is given elsewhere in this catalogue.

### III. ADMISSION FROM THE COLLEGE ACADEMY.

A student who presents from the Principal of the Academy a certificate that he has properly completed either course of study set forth in the curriculum of the Academy will be admitted to the Freshman Class of the corresponding course in the College without further examination.

### IV. ADMISSION FROM A COLLEGE OR UNIVERSITY.

An applicant for admission who has been a student of another college or of a university of respectable standing, upon presenting a certificate of his honorable dismission therefrom, may be admitted *ad eundem gradum* in this College, provided that he shall satisfy the appropriate professors that he has duly completed a course of study equivalent to that completed by the class which he proposes to enter.

### V. ADMISSION AS SPECIAL STUDENT.

A graduate of another college or of a university may enter this College at any age in order to pursue a special line of work and study, but all others must be at least twenty-four years of age, the limit below which appointments of beneficiaries under the law must be made.

### VI. ADMISSION FROM THE NORMAL SCHOOL.

Although the Academy is the recognized preparatory school for all courses of study in the College, credit is given nevertheless to students who have completed any subject in the Normal School, for the amount of work done and certified by the Principal of the Normal School or his chief assistant. To the extent of such certified credits students from the Normal Department will be admitted without examination to the Freshman Class. On all other subjects required for admission in accordance with the conditions set forth on pages 13, 14, 15, they must pass examination.

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The Board of Trustees has authorized the appointment of a Board of Examiners, by whom all applicants for admission shall be examined.

Students who bring certificates of graduation from accredited schools shall present them to this Board, who will pass the students in the subjects covered by certificate, without further examination. On all other subjects they shall be examined for admission and classification.

Honor pupils, one from each accredited school, shall be admitted without payment of fees. All others from accredited schools shall pay full fees.

Applicants for admission to the Academy or the Normal School shall be examined *on all branches embraced in the Common School course as required by law*, and no one who has not passed actual examination shall be admitted to either.

Students who desire to pass from the Normal School or the Academy into the College shall be admitted on identical conditions, as set forth on pages 13, 14 and 15.

## DEPARTMENTS.

The studies of the State College are distributed into eighteen Departments, each in charge of a responsible head, the heads constituting the Faculty. Arranged in chronological order the Departments are :

I. History, Political Economy, and Metaphysics.
II. Botany, Horticulture, and Agriculture.
III. The English Language and Literature.
IV. Military Science.
V. Chemistry.
VI. Mathematics and Astronomy.
VII. Modern Languages.
VIII. Greek and Latin.
IX. The Academy.
X. Pedagogy, or the Normal School.
XI. Civil Engineering.
XII. Mechanical and Electrical Engineering.
XIII. Anatomy and Physiology.
XIV. Geology.
XV. Zoölogy.
XVI. Physics.
XVII. Entomology
XVIII. Mining Engineering.

# COURSES OF STUDY.

## I. DEPARTMENT OF HISTORY, POLITICAL ECONOMY, AND METAPHYSICS.

PRESIDENT PATTERSON.

The course of instruction in this Department includes an outline of Ancient, Medieval, and Modern History. Attention is given to the various forms of government, their characteristic features and points of difference; to the progress of civilization, the origin and development of parliamentary government, the rights and duties of citizenship.

In the period covered, Modern History and the History of England and of the United States occupy the most prominent place.

Walker's Science of Wealth is made the basis of instruction in Political Economy. Students are, however, made familiar with the principles upon which rest the rival doctrines of Protection and Free Trade.

The study of Mental and Moral Philosophy extends through one year. Sir William Hamilton is used as the basis of instruction in Metaphysics, and Mackenzie in Ethics. Concurrently with recitations from these authorities, the pupil is made familiar with the principles upon which rival systems of philosophy and morals are based, and the arguments by which they are maintained. Ancient and modern systems are thus brought under review. and the necessary data furnished upon which to ground intelligent opinions.

## II. DEPARTMENT OF AGRICULTURE, HORTICULTURE, AND BOTANY.

PROFESSOR MATHEWS.

This Department occupies rooms on the first floor of the Natural Science Building, including a general laboratory, a lecture room and advanced laboratory, and an instructor's office.

Each laboratory is suitably furnished with tables, water and gas fixtures, charts, etc., and the lecture room with opera chairs, a stereopticon, etc. The further equipment, both for elementary work and for the use of advanced students, is new and of the best quality, and includes an ample supply of compound and dissecting microscopes for the individual use of each student, several first-class microtomes. ovens and sterilizing apparatus, together with delicate balances and other apparatus for the study of plant physiology.

Among other facilities for study, the Department possesses a greenhouse (85 x 20 feet), giving an opportunity for the continuous study of living plants throughout the winter months, and for experiment work in plant physiology.

The herbarium contains a nearly complete representation of the flora of Kentucky, with a considerable number of foreign exchanges. It is due

primarily to the efforts of the late Dr. Robert Peter, who made a quite extensive collection of Kentucky plants about sixty years ago, and also exchanged specimens with the prominent botanists of that day, thus forming the nucleus of the present collection, which therefore possesses considerable historic value. Constant additions are now being made to the herbarium by collecting excursions over the State and by exchanges with other institutions.

The Department Library is receiving constant accessions of carefully selected books, and already contains the most important botanical and horticultural works of reference, and these, as well as the best current literature upon these subjects, are available to students during college hours.

For the study of horticulture and agriculture, many of the appliances already mentioned are again utilized, and in addition to the complete equipment of the Experiment Station incidentally afford superior opportunities for the instruction of students.

The Horticultural Department of the Station has an excellent forcing and greenhouse plant upon the College grounds, consisting of four glass houses of the most approved methods of construction, containing 4,000 square feet of glass, in addition to hot-beds and cold frames outside. These houses are run to their full capacity through the winter months in the conduct of experiments upon the culture of lettuce, radishes, tomatoes, cauliflower and other vegetables, and upon the various methods of plant propagation.

The extensive list of varieties of vegetables and fruits growing upon the Experiment Farm gives an opportunity for a comparative study of varieties rarely, if ever, found upon the ordinary farm.

The College campus contains a large number of ornamental trees and shrubs, and numerous varieties of annual and perennial flowering plants, and with other public grounds in Lexington affords ample facilities for the study of ornamental and landscape horticulture.

In the distinctively agricultural studies the operations of the farm department of the Experiment Station furnish an excellent opportunity for the study of the effects of various fertilizers, varieties of wheat, corn, and other field crops, and the many problems of dairying.

In order to give special attention to dairy experiments a building has been erected upon the Station Farm and fully equipped with the most modern appliances for the care of milk and the manufacture of butter and cheese.

All these facilities for the experiment work of the Station, while primarily designed for that purpose, can not fail to be of the greatest value as object lessons in connection with the studies of pupils in agriculture.

The general subjects comprised within the scope of this department are subdivided as follows:

### I. ELEMENTARY BOTANY.

Required of all students of the Scientific, Normal, and Agricultural courses who have not completed a corresponding course in some preparatory school.

SPRING TERM—This course consists of a study of the elements of structural botany and plant physiology, with determination of a number of species of the flowering plants. It corresponds to the work done in most of the high schools in the State, and if satisfactory evidence is presented, by examination or otherwise, that such a course has been completed before entering the College, the student will be admitted directly to the general botany of the Sophomore Class.

*Text-books and Books of Reference:* Gray's Lessons and Manual of Botany; Bailey's Lessons wfth Plants ; Bergen's Elements of Botany.

### II. GENERAL BOTANY.

Required of all Sophomores in the Scientific, Normal, and Agricultural courses.

FALL AND WINTER TERMS—The work of the course comprises a general survey of the morphology and physiology of plants, and is is designed to give the student who goes no further with the subject a comprehensive view of the entire vegetable kingdom, while for the student who will continue his botanical study it is intended to afford a substantial basis for more exhaustive special studies. While it is accompanied with lectures and recitations, the laboratory method is the form of instruction principally used, and from the very beginning of his work the pupil is directed to the study of plants themselves, using the text-book as an aid to correct his mistakes and to enlarge his field of view. He is early instructed in the use of the compound and dissecting microscopes, and with their aid he begins in the Fall term the study of the simplest forms of the vegetable kingdom.

*Text-books:* Coulter's Plant Structure, supplemented by directions in the laboratory and by numerous standard works of reference.

### III. SYSTEMATIC BOTANY.

Required of Sophomores who elect Geology, Zoölogy, Anatomy and Physiology, Botany, or Agriculture as a major study.

SPRING TERM—The principal feature of this course is the taxonomy and classification of the ferns and flowering plants, with special reference to those groups which are of economic importance.

### IV. PLANT HISTOLOGY AND ECONOMIC BOTANY.

Required of Juniors who elect Botany or Agriculture as major study.

FALL TERM—In Economic Botany, which is assigned for Tuesdays and Thursdays, a thorough study is made of selected families of plants, with regard to their characteristics, distribution, habitat, economic importance, etc. In Histology the student is given instruction and training in collodion, paraffin, and other methods of preparing vegetable tissues for microscopic study, accompanied and followed by a study of the slides so prepared.

*Text-book:* Chamberlain's Methods in Plant Histology.

### V. PLANT PHYSIOLOGY.

Required of Juniors who elect Botany or Agriculture.

SPRING TERM—The course is conducted by lectures and laboratory experiments, which aim to bring to the student a clear conception of the main facts and principles of plant physiology, and naturally supplements the histological studies of the Fall Term.

To a considerable extent the laboratory experiments are carried on in the College greenhouses.

*Text-books:* The laboratory manuals of Ganong and Macdougal.

### VI. THESIS.

The first term of the Senior year is devoted to the study of some special subject, selected with reference to the taste and abilities of the student, as a preliminary to the preparation, during the winter and spring terms, of a thesis for graduation.

### VII. HORTICULTURE,

Required in the Agricultural Course. The work in this subject begins in January of the Junior year and extends through two terms. The time allotted to the subject is divided between lectures, recitations, and actual practice in horticultural operations, special prominence being given to the latter feature of the course.

In the lectures are discussed the principles underlying horticultural practices; the propagation of plants; the physiological considerations upon which are based the operations of budding, grafting, pruning, training, etc.; greenhouses, their construction, heating, and management; and vegetable, fruit, and landscape gardening. In connection with the lectures, the work in the greenhouses and upon the college and experimental grounds is freely used for illustrative purposes, and occasional visits are made to the greenhouses, nurseries, market and fruit gardens in or near Lexington.

In the practical part of his studies the pupil is not only taught the best methods of doing his work, but is encouraged to seek for the principles that make such methods best. He performs for himself the various operations of seed testing and seed sowing; propagation by cutting, layering, division, etc.; budding, grafting, crossing, hybridizing, and other forms of horticultural practice.

In order to make this work of the highest value to the student, he is required throughout the course to make accurate observations and careful notes upon his progress, and upon the results of these processes.

### VIII. GENERAL AGRICULTURE.

Required of Juniors in the Agricultural Course.

The subject is taught by means of lectures and text-books, accompanied by practical and illustrative exercises when the subject and weather will permit.

The course as presented here is divided into two general heads. *_Soils_ and _Field Crops_, and the instruction is given mainly by Prof. J. N. Harper, of the Agricultural Experiment Station.

The lectures on soils include a discussion of the physical properties of soils and their improvement by cultivation, fertilization, etc.; the relation of soils to heat, air and moisture; soil water, its movement through different kinds of soils; the influence of humus, the conservation of soil moisture, and drainage.

In the general subject of Field Crops, lectures are given upon the history, production, cultivation, fertilizers, rotations, varieties and harvesting of Kentucky farm crops, particularly tobacco, wheat, corn, and hemp.

### IV. ANIMAL HUSBANDRY.

The instruction under this general subject is given in the form of lectures, demonstrations, and practical laboratory exercises, by Prof. D. W. May, of the Experiment Station. It includes a study of the principles of stock feeding, stock judging, breeds of live stock, and the operations of the dairy. In each of these subdivisions the lectures are supplemented as far as possible by practical work upon the part of the student.

For the study of stock breeding, and kindred subjects, the location of the College is exceptionally favorable, situated as it is in the center of the Bluegrass region of Kentucky, with its numerous herds of high-bred horses, to which occasional visits are made as opportunity offers.

The live stock upon the Experiment Station farm, together with the various experiments in progress in feeding, dairying and in other directions, afford facilities for illustrative purposes

### THE COURSE OF AGRICULTURE.

The distinctive feature of this course is the instruction in those branches of study which bear the most direct and practical relation to agricultural pursuits. It includes as subjects of primary importance the study of General and Agricultural Chemistry, General Zoölogy and Entomology, Botany, Horticulture, Geology, and General Agriculture.

In addition to these subjects, the student devotes considerable time to the work of other departments, including a year in English and Mathematics, courses in Drawing, French, and German, Physiology, Physics and Political Economy.

To meet the needs of young men who for any reason cannot hope to complete a four years' course in Agriculture, a special course of two years has been arranged.

This course includes all of the more distinctively agricultural subjects of the full course, but does not lead to a degree. A certificate of proficiency

*For the year 1903-1904 the instruction on this subject was supplemented by a special course of lectures, with laboratory and field demonstrations, continued through the month of January, by Mr. Clarence W. Dorsey, of the Bureau of Soils, U. S. Department of Agriculture, under special appointment of the Secretary of Agriculture, James Wilson.

will, however, be issued to those students who complete the studies of the entire course in a satisfactory manner.

The schedule of studies for this course will be found on another page. (See "Schedule of Studies.")

### THE SHORT (WINTER) COURSE IN AGRICULTURE.

In this course an opportunity has been provided for young men who desire to excel in their chosen occupation of farming to secure an elementary knowledge of those scientific principles which lie at the foundation of all success in agriculture. In order that such a course of study may not interfere with the work of the busy season upon Kentucky farms, it begins in January immediately after the Christmas recess, and continues for ten weeks. Its aim is to give to ambitious young farmers accurate and practical information on such important topics as manures and commercial fertilizers; agricultural chemistry; soils and their origin; plant life on the farm; vegetable and fruit growing; diseases of plants; injurious insects; the principles of veterinary science, and the treatment of the simpler ailments of farm animals; care and feeding of live stock; the dairy cow; milk and the manufacture of butter and cheese.

In such subjects as will permit it, actual practice will be given in the manipulation of materials and appliances of study, such as the care of milk, practical butter-making, spraying plants for injurious insects and diseases, and in horticulture the practices of seed-sowing, pruning and training, grafting, etc.

This course affords to young men on farms, whose time and means are limited, an opportunity to utilize the winter months to the highest possible advantages by fitting themselves more thoroughly for their life-work.

No examinations are required for admission to this course, the only requirements being that the applicant must be of good moral character, must have had a good common school education, and be at least sixteen years of age, or preferably somewhat older, to profit fully by this course.

To residents of Kentucky, instruction in this course will be free, the only expense being the cost of a few books and other necessary incidentals, together with board and room and other personal expenses. Board and a room can be secured at prices varying at from three to five dollars per week, so that the total expenses of a student during his entire ten weeks' stay need not exceed from thirty-five to fifty dollars.

Further information regarding this course may be obtained by addressing President Patterson or Professor Mathews, at the College.

## III. DEPARTMENT OF ENGLISH.

PROFESSOR MACKENZIE.

The course in the English language and literature is perhaps as thorough and comprehensive as the financial limitations of the College will permit. The training is of such a nature as to promote individuality, and to this end occasional work is done in journalism, short-story writing, etc. For the pioneer few fields seem so fascinating as that which Posnett calls Compara-

tive Literature. Literary criticism is but a branch of anthropology, and in attempting to trace the evolution of literature several laws are tentatively formulated. Possibly in the class lectures the booklover may find some suggestions new enough and true enough to quicken both reason and imagination.

The Carnegie Institution was intended to be an impartial friend of all studies that tend to interpret nature to man and man to himself, but as at present organized no grant is to be made for original research in art, literature or philology. Philology is a science that gives opportunities for further research, though there is no occasion to impair breadth of vision by excessive application to the microscope. Paul, Brugmann and Wundt are considered with some discrimination.

### FRESHMAN YEAR.

FIRST YEAR—Literature of the Nineteenth Century, English and American. A critical and philosophical study of some of the masters—books as interpreters of life—underlying unity of poetry and the fine arts—letter-writing, its history and mystery. Lectures on advanced rhetoric.

SECOND TERM.—Lectures on Carlyle and some of his European and American contemporaries. As a basis for further appreciation of literature and rhetoric, one of this modern seer's works, such as Past and Present, or Heroes and Hero-worship, is studied.

THIRD TERM—Two or more plays of Shakespeare, Ben Jonson or Goldsmith. Lectures on the Drama and its technique, both ancient and modern.

Throughout the session training is given in the writing and criticism of letters and essays, which are frequent rather than long. Stress is laid upon the cultivation of a style in composition that shall be at once accurate, strong, and graceful.

### SOPHOMORE YEAR.

English Literature of the Seventeenth and Eighteenth Century, in alternate years, including the late Renaissance, Puritan, Restoration, Augustan and Georgian periods. In addition to the "gay science," the Shakespeare-Bacon and Ossianic controversies claim attention. Lectures on the relation of literature to art, criticism, ethics, and the sciences, in order to throw light on the solidarity and scope of literature. Theme-writing and etymology are not neglected.

### JUNIOR YEAR.

FIRST TERM—English literary history from the Norman Conquest to Spenser. Readings in Middle English as found in the interesting and valuable works of Thomas the Rhymer (1220–1298), Barbour, Androw of Wyntoun, and Henry the Minstrel, all of whom are independent of Chaucer.

In alternate years such medieval gems as are linked with the names of James I, Henryson, Dunbar, and Douglas (1474–1522).

SECOND TERM—Introduction to *Comparative Literature*. Some clues to a general theory of literary evolution from the days of primitive man.

Can one principle be found that will account for the growth and decay of definite literary types—epic, dramatic, lyric—in all times and climes? Can the strictly scientific method lead to safe speculation upon the future of literature?

THIRD TERM—History of the English language; lectures on the origin of the English language, its Celtic, Teutonic, and classical elements, and its inflexions, with a glance at the way in which some words are raised to the peerage while others fall into disrepute. The psychology of persuasion is explained, and a distinction is drawn between the English of the newspaper, the novel, the pulpit, the bar, and the public platform. The principles of versification are briefly illustrated.

Students who elect Anglo-Saxon receive instruction in the parts of speech and in syntax, after which selections are read from Bede's History, King Alfred's Translations from Boethius and Orosius, and from the verse of Beowulf. The close relationship of Anglo-Saxon to our current speech is constantly kept in view, and Grimm's Law, with Verner's modification, is explained. Original research and independence of thought are fostered.

### SENIOR YEAR.

*Anglo-Saxon*—Advanced students take up and study with some thoroughness Cynewulf's Christ. Lectures review the entire literature before the Conquest, and the Celtic literatures of Britain are not left in oblivion.

*Comparative Philology*—An introduction to the scientific study of language in order to learn a few fundamental principles of: (1) Semeiology; (2) Spoken language, including phonology and grammar; (3) Recorded language, including thought-writing, pictography, symbolic and ideographic writing. The course consists of lectures, but requires some private collateral reading.

*Oriental Studies*—For the special benefit of students of Comparative Philology, a course in elementary Sanskrit or elementary Hebrew is offered. In the one case stress will be laid upon Aryan philology, and in the other upon Semitic.

*Electives*—In the course of studies leading to the degree of A. B. (major study, English) Junior students may elect Greek or Latin, and are obliged to take at least one term of Analytical Geometry; Seniors may elect French, Astronomy, or Hebrew, or they may take all three.

*Prize*—The works of some standard author, open for competition to all regular Junior and Senior Students, are offered for the best critique of the poets of Kentucky.

Senior students who take the A. B. course (major study, English) are required to write a thesis on a topic approved by the Professor of English. It must display considerable research, and be untainted by plagiarism. An original poem of at least one hundred lines in either English or Latin may be offered as an alternative.

## Logic.

The Science of Logic; lectures on Pure Logic, in which Stoichiology and Methodology are explained and illustrated; explanations and illustrations of the analytics of Aristotle and the New Analytic of Sir William Hamilton; exercises in Figure, Mood, aud Reduction; lectures on Fallacies and Sources of Error; lectures on Inductive and Analogical Reasoning; lectures on Evidence.

### GRADUATE STUDY.

1. Gothic language and literature. 2. The origin and literary history of the Arthurian legends and romances. 3. Early Scottish literature, from Barbour (1375) to George Buchanan (1582), including Dunbar, Gavin Douglas, and Lindsay; or. 4. Such a topic as may obtain the sanction of the Professor of English, any one as a minor study. Candidates for the degree of A. M. (major study, English) are advised to take Gothic and any other study they may choose from the foregoing list. Without a previous knowledge of Anglo-Saxon, the study of Gothic is not recommended.

*Gothic.*—A course, especially for those who desire to know English historically, in the Moeso-Gothic and its phonological relations both to early Aryan and to later Gothic or Teutonic languages. Initiation into some of the mysteries of Anglo-Saxon, Norse, and Gothic runes, followed by a brief discussion of the 3 x 8 formulation of the futhark.

SEMINAR. *Old English Legal Codes.*—A special course interesting alike to the prospective law student, the philomath, and the jurist. If deemed desirable, a brief preliminary training in Anglo-Saxon syntax.

## IV. DEPARTMENT OF MILITARY SCIENCE.

LIEUTENANT BURTT.

The military instruction is under the charge of an officer of the United States Army. The course as a whole has special reference to the duties of the line. A full supply of arms and ammunition is furnished by the War Department for the use of the cadets in this course.

Every male student able to perform military duty, and not excused for sufficient cause, is required to drill twice each week and to attend the required lectures and recitations throughout the Freshman and Sophomore years. The standings in study and drill are placed on record, and are requisite to graduation in every course in the College.

The battalion is composed of four companies and the artillery and signal detachments. The officers are usually selected from the Junior class and the non-commissioned officers from the Sophomore class. The officers are paid a small sum for their services.

The uniform prescribed is of cadet gray; coat, trimmed with black mohair braid; trousers, with black cloth stripe, cut after the army pattern. In order that all uniforms worn here may be, in quality, make and finish, in strict accordance with the specifications adopted by the College, all students enrolled in the military department are required to obtain them from

the firm only that may for the time being, be under agreement to furnish said uniforms at a stated price and of standard quality.

### THEORETICAL INSTRUCTION FOR ALL MALE STUDENTS.

Infantry drill regulations, U. S. Army. Firing regulations. Manual of guard duty. Army regulations.

Lectures on the organization and administration of the United States Army, and the general principles in the art of war. Freshman and Sophomore years, one hour per week.

### PRACTICAL INSTRUCTION FOR MALE STUDENTS.

*Infantry.*—School of the soldier, squad, company, and battalion; ceremonies; guard duty; minor tactics.

*Artillery.*—School of the cannoneer, and battery, dismounted; ceremonies; guard duty.

Freshman and Sophomore years, two hours per week.

### THEORETICAL INSTRUCTION FOR ALL OFFICERS AND SERGEANTS.

Military administration; field engineering; elements of the art of war; preparation of reports and returns.

Sophomore and Junior years, one hour per week.

## V. DEPARTMENT OF CHEMISTRY.

PROFESSOR KASTLE.

The Chemical Department dates from the establishment of the institution. For many years it was under the direction of Dr. Robert Peter, who by his labors in analytical chemistry has probably done more than any other man to develop the abundant mineral resources of the State. The Department remained in the hands of Dr. Peter until 1887, when he resigned. Dr. E. A. Von Schweinitz was then appointed to the vacancy. He held the position during the collegiate year of 1887–1888, whereupon the present incumbent was appointed. For many years the chemical laboratories and lecture-room occupied the eastern part of the main College building. In September, 1880, however, the Department Station building having been completed, the apparatus and equipment were removed from the laboratories in the Main Building to more suitable and beautiful rooms on the second floor of the Experiment Station Building. The lecture room and the laboratories, qualitative and quantitative, of the Chemical Department are exceedingly well adapted to their purpose and are among the best constructed and most handsomely furnished of the rooms in the College. The qualitative laboratory contains three very large working tables, each of which can easily accommodate ten students. The quantitative laboratory is also well equipped with tables, hoods, water, gas, electricity, etc., and has desk room for at least fourteen students in all. The lecture-room is well lighted and heated and beautifully furnished and commodious, having a seating capacity of about seventy-five. Besides the laboratories and lecture-room, there are several other small rooms on the same floor set aside for the use of

the Chemical Department—an instructor's office, a balance-room, and a store-room.

### APPARATUS.

The Department is well supplied with the commoner forms of chemical apparatus and chemicals. In addition to these it owns several of the more expensive pieces of apparatus, such as several exceedingly delicate balances for analytical work; a grand model Bunsen & Kirchoff spectroscope; platinum apparatus; a complete outfit for electro-plating; vapor density apparatus; a glass model ice-machine, etc. These of course will be added to from time to time, as the needs of the Department demand and the resources of the institution permit; as it is now, however, the equipment is such as readily to enable the student to obtain at first hand a good working knowledge of chemical science.

### COURSE IN CHEMISTRY.

The Chemical course is one of the several scientific courses offered by the College. It was first offered in 1894 with the view of preparing the student for life work in Chemistry, and also with the view of fitting him for the study of medicine and kindred professions. To the accomplishment of this purpose the following course of study, extending over a period of four years, has been adopted.

### STUDIES REQUIRED.

The first year is devoted to the study of English, German, Physiology, Free-hand Drawing, and Mathematics, including Plane Geometry, Trigonometry, and Algebra. The second year to German, Physics, Botany, Chemistry, and Mathematics, including Solid and Analytical Geometry and Calculus. The third year to Theoretical Chemistry, English, Calculus, French, and laboratory work on the Chemistry of the metals and on Qualitative Analysis. The fourth year to Quantitative Analysis, Organic Chemistry, Chemical Reading on advanced topics, and to Chemical Research, History and Political Economy, Logic and Mental Philosophy.

For further information as to requirements, the Schedule may be consulted, page 59.

### THE TRAINING IN CHEMISTRY PROPER.

The study of Chemistry proper, as outlined in the above, is sufficient in its scope to bring the student into close contact with the great fundamental truths of the science and to make him enthusiastic and capable in his profession.

The course in General Chemistry, extending through the second and third terms of the second year, consists of lectures and recitations five times weekly on the non-metals and their compounds and the simpler laws of chemical change. The lectures are abundantly illustrated by suitable and instructive experiments; the laboratory work is carefully directed, and the student receives every possible encouragement to do excellent work.

In the third year the study of Chemistry is resumed, with laboratory work and Theoretical Chemistry. The study of Theoretical Chemistry, con-

sisting of lectures, recitations, and readings five times weekly throughout the year, is intended to acquaint the student with the greatest generalizations and theories of modern chemistry and their historical development. In this connection about fifty lectures are delivered annually upon the following general topics : Ten upon the Atomic Theory, its development, and the methods at present used in the determination of atomic weights; fifteen upon the Compounds of Carbon, Isomerism and Structural Formulæ; ten upon the History of Chemistry; five upon the Periodic Law; five upon the Spectroscope, Spectrum Analysis, and the Chemistry of the Heavenly Bodies; five upon the more important current chemical investigations.

By way of supplementing the work of the lecturer, students pursuing this course will be required to do a certain, rather liberal, amount of general reading upon the matter treated of in the lectures or upon such other topics as may be assigned by the instructor. For this purpose the nucleus of a chemical library has been formed, which may be freely consulted by any or all students in the College, and the leading chemical journals of this and other countries will there be kept on file. The broadening influences of such a course of study can scarcely be overestimated, and the students who complete it satisfactorily will find themselves, in some measure at least, abreast of the highest and best chemical thought of our time.

The laboratory work during the first term of the third year is devoted to the study of the metals and their more important compounds, and to qualitative analysis. This work is intended to supplement the work of the first year upon the non-metals, and also to familiarize the student more fully with the commoner methods of chemical manipulation and practice. The laboratory work of the first term will be followed up during the second and third with laboratory work in quantitative analysis, by means of which the student learns the value of precise and accurate work and the constancy and definite character of chemical reactions. The chemical work of the last year will consist of such special work as the student may elect to pursue, together with the preparation of a thesis embodying the results of this special work. The object of such special arrangement is to perfect him in that particular branch of the science for which he shows a liking or a particular talent. In this connection it may be well to state that facilities are offered for special work along the following lines: Theoretical and Physical Chemistry, Organic Chemistry, Agricultural Chemistry, Physiological Chemistry. general analytical work, and special analytical work on fertilizers, iron and steel and fuels.

### CHEMISTRY REQUIRED IN OTHER COURSES.

Instruction in Chemistry in other courses of study, such as the Scientific, Classical, etc., is designed to meet the special needs of the student in these several directions.

In the Classical Course the study of this science extends over five months, five times weekly, and is intended simply to introduce the student to the subject by the way of general education.

In the Scientific Course the work extends over ten months. A portion

of this time is devoted to the study of metals and qualitative analysis by means of laboratory work. In the course of Mechanical Engineering the instruction is adapted as completely as possible to the needs of students in this department. Instruction in chemistry in this course extends over a period of two terms, five months of which are devoted to the study of the non-metals and their compounds; five to the chemistry of the metals with special reference to the properties which render them useful to the mechanical engineer, and also with reference to their mode of occurrence in nature and the methods of obtaining them from the ores.

For Students in Civil Engineering a course in Chemistry has been provided as follows: General chemistry, one term; laboratory work on the metals, one term; quantitative analysis, one term.

In the course of Mining Engineering instruction in Chemistry extends over a period of three terms, and includes the following snbjects: General Chemistry, the Chemistry of the Metals and Quantitative Analysis. In addition, one term's work in Metallurgy is required, and also one term's work in Assaying and Metallurgical practice.

For the benefit of students of Agriculture a special course in Agricultural Chemistry has been arranged, the general aim of which is to acquaint the student with the chemistry of those elements which enter into the composition of plants, and which are essential to their life and growth. A study of the composition of the soil, air, and water, and their several relations to the plant as sources of plant food, forms a large and important part of this work. Also the chemistry of tillage, irrigation, and retation of crops, and the composition and value of commercial fertilizers and manures.

The instruction in Chemistry is also adapted as fully as possible to the needs of students in Biology. Instruction in this branch extends over two terms, five times weekly. The first half of the time is devoted to the study of Elementary Chemistry; this is followed by laboratory work in the afternoon upon those elements which are regarded as essential to living things, animal and vegetable.

## VI. DEPARTMENT OF MATHEMATICS AND ASTRONOMY.

PROFESSOR WHITE, ASSISTANT PROFESSOR JOHNSON.

### PREPARATORY.

A thorough knowledge of Arithmetic, of Algebra, through quadratic equations. as presented in Fisher and Schwatt's Higher Algebra, and of Plane Geometry as presented in books I. to V. inclusive of Beman and Smith's Geometry, is required for admission to the Freshman Class in Mathematics.

### FRESHMAN CLASS.

FIRST TERM—Wentworth's Plane Trigonometry.

SECOND TERM—Beman and Smith's Solid Geometry.

THIRD TERM—Fisher and Schwatt's Higher Algebra, from Chap. XXV.

### SOPHOMORE CLASS.

FIRST TERM—Nichols' Analytical Geometry begun.

SECOND TERM—Nichols' Analytical Geometry continued; Church's Descriptive Geometry begun.

THIRD TERM—Nichols' Analytical Geometry completed; Church's Descriptive Geometry completed; Osborne's Calculus begun.

### JUNIOR CLASS.

FIRST TERM—Osborne's Calculus continued.

SECOND TERM—Osborne's Calculus completed.

### SENIOR CLASS.

FIRST TERM—Spherical Trigonometry and Astronomy.

SECOND TERM—Young's Elements of Astronomy begun,

THIRD TERM—Young's Elements completed.

## VII. DEPARTMENT OF MODERN LANGUAGES.

PROFESSOR WERNICKE.

### German.

The courses offered in German are:

G1: Three consecutive terms in elementary German.

Gs: An introduction to scientific prose (one term).

G2: Continuation of G1, involving an introduction to German literature, and practice in composition (two terms).

G3: Advanced composition. Introduction to various styles.

Gh: History of German literature based on the national history.

Gc: Advanced conversational exercises (one term).

Gl: Study of some author (Schiller, Lessing, etc.).

Gph: Introduction to philology of Germanic languages.

All classical and scientific students take G1, Gs, and G2, which are given annually. Candidates for the Master's degree, if German be one of their minor studies, will be assigned G3, Gh, or Gc; if German be their only minor study, additional work may be required. Candidates for the Master's degree who select German as their major study will take two of the courses G3, h, c, l, and ph; and present a thesis written in German (about 4,000 words). Courses Gl and Gph are primarily designed for this class of students, and will consist of lectures and weekly reports on individual work.

### Romanic Languages.

This Department offers:

F1: Three consecutive terms in elementary French, taking the student through the main irregular verbs, and leading to a fair reading knowledge. Prerequisit: Some experience in the study of languages, such as is acquired in G1 *plus* G2, or in a two or three years' course in Latin.

F2: Introduction to French literature. Syntax and Composition (three terms).

F3: Advanced composition (one term).

Fh: History of French literature, consisting of lectures and weekly reports on collateral reading (two terms).

Fc: Advanced conversational exercises (one term).

S1: Elementary Spanish (two terms).

S2: Advanced Spanish (one term).

I1: Elementary Italian.

I2; Advanced Italian.

All classical and scientific students take F1, the former also F2. Candidates for the degree of M. S., if French be one of their minor studies, will be assigned F2; if French be their only minor study, further work may be required. Candidates for the degree of M. A. will take Fh if French be one of their minor studies; F3 *plus* Fh if it be their only minor. In addition thereto, those who select French as their major study will take either Fc, or S1 *plus* S2, or I1, and will present a thesis written in French (about 4,000 words).

The text-books in this Department are frequently changed, and a large portion of the instruction in all classes is independent of the manual adopted. Texts recently used are:

G1: Becker's Elementary German; Joynes-Meissner's and Thomas' Grammars, Thomas & Hervey's Reader: Carmen Sylva's Aus meinem Koenigreich.

Gs: Hodges' Scientific German; Gore's Science Reader.

G2: Hoffman's Historische Erzählungen; Freytag's Luther: Schiller's Wallenstein, Maria Stuart, etc.; Scheffel's Trompeter; Freytag's Soll und Haben; Harris' Composition.

G3: Lessing's Nathan, Mina von Barnhelm, Laokoon, etc.

Gh: Bernhardt's Litteraturgeschichte.

Gl: Klenze's Gedichte.

Gph: Paul's Mittel-hochd. Grammatik; Wackernagel, Edelsteine.

F1: Frazer & Squair's Grammar; Edgren's Grammar; Verne's Michael Strogoff, Tour du Monde; Cameron, Tales of France, Fontaine's Napoleon.

F2: Loti's Pêcheur d'Islande; Lacombe's Petite Histoire; Rostand's Cyrano de Bergerac; Whitney's Grammar, Part II; Grandgent's Composition; Luquiens' Places and Peoples; Herdler's Scientific French Reader.

Fh: Demogeot's and Aubert's Litêrature Francaise.

S1: Loiseaux, Grammar and Reader.

S2: Same, Knapp's Readings; Alarcon's El Capitan Veneno.

I1: Grandgent's Grammar; Bowen's Reader.

I2: Goldoni's Comedies; Pellico's Prigioni.

## VIII. DEPARTMENT OF GREEK AND LATIN.

PROFESSOR NEVILLE, ASSISTANT PROFESSOR JONES.

### Latin.

#### PREPARATORY.

*First Session*—Smiley & Storke's Beginner's Latin Book, the study involving a daily exercise in inflection and in translation from and into Latin on the blackboard; Viri Romæ

*Second Session*—Ten lives of Nepos; five books of Cæsar; Daniell's New Latin Com position; Creighton's History of Rome; Guerber's Myths of Greece and Rome.

#### FRESHMAN CLASS.

Six orations of Cicero; selections from Ovid, with instruction in scanning; the first and twenty-first books of Livy; Johnson's Private Life of the Romans.

### SOPHOMORE CLASS.

Six books of Virgil; Cicero De Senectute; the Captives of Plautus or Suetonius's Life of Augustus; Sallust's Conspiracy of Catiline.

### JUNIOR CLASS.

Horace (except a part of the Epodes and most of the Satires), with the scanning of the more common metres; letters of Cicero and of Pliny; the first half of Bradley's Arnold's Latin Prose Composition.

### SENIOR CLASS.

Tacitus—The Germania and the Agricola; the third, seventh, eighth, and tenth Satires of Juvenal; or, instead of the seventh and eighth, an essay of Seneca's; poems of Catullus; the second half of Arnold's Composition; Wilkins's Sketch of Latin Literature.

## Greek.

### PREPARATORY.

*First Session*—White's Beginner's Greek Book, with a daily exercise in inflection and in translation from and into Greek on the blackboard (all Greek to be written with the accents).

*Second Session*—Greek Reader; five books of Xenophon's Anabasis; Oman's History of Greece.

### FRESHMAN CLASS.

Six books of the Iliad; selections from Herodotus; Plato's Apology and Crito; exercises in Greek syntax.

### SOPHOMORE CLASS.

Four orations of Lysias; four of Demosthenes; Xenophon's Memorabilia, or dialogues of Lucian; exercises in syntax and prose composition.

### JUNIOR CLASS.

Two books of Thucydides; poems of Theocritus, Bion, and Moschus.

### SENIOR CLASS

Three dramas (Prometheus, Medea or The Clouds, Œdipus Rex or Antigone; Jebb's Sketch of Greek Literature.

The curriculum leading to the classical degree of A. B., and set forth in the Schedule on page 69. includes English, Greek, Latin, French, German, History, Political Economy, Metaphysics, Mathematics and some Physical Science. The grouping of these studies is designed to meet the needs of those students whose tastes and aptitudes incline them to literature rather than to science; who seek not knowledge alone but culture as well; and who, moreover, desire a course of studies suited to those who are to prepare themselves for a profession, and to become teachers, preachers, physicians, lawyers, journalists, writers or scholars, or, it may be, legislators or authors.

To this brief statement of the objects kept in view in making up this group of studies it is due to this Department, and not meant to be invidious, to add, that statistics published annually by the U. S. Commissioner of Education show that, even in this country where scientific and the so-called practical studies are so strongly and so justly recommended and encouraged, that even here the classical course is from three to six times more popular than any other; while the English, the French, and the Germans, who in letters, arts, and arms rank highest in the scale of nations, devote far more attention to these studies than we. Indeed, as showing the educational trend of the most intelligent people that has ever

existed, it is a fact of impressive significance that a vast Thesaurus Linguae Latinae, *Thesaurus of the Latin Language*, and written in Latin, the product of five leading universities of the Germans, and therefore of the world, Berlin, Leipzig, Goettingen, Munich and Vienna, is now appearing from the press of Teubner. This magnificent and monumental work is to consist of twelve volumes quarto, each as large as Webster's Unabridged, and to sell, when durably bound, for more than $200 a copy. No other language has had such a dictionary, and this Thesaurus is the greatest contribution ever made to the study of that language, which to every highly civilized people is more important than any other except their own ; which has formed nearly half of ours and more than half of three others; and which, therefore, cannot, in any rational scheme of education, be neglected or disparaged but must retain its place if not its primacy among the most useful studies that man can pursue.

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In 1903, the last year reported, there were in American colleges, universities, and technological schools, 114,130 students: in classical courses, 51,152; in other culture courses 13,605; in general science, 7,397: in mechanical engineering, 6,800; in civil, 5,378; in electrical 3,652; in mining, 2,244; in agriculture, 3,306; in all other courses, 3,285.

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The Professors of this Department offer courses of study equal to those of the best land-grant colleges, courses as long and as varied as the grade of their students and other limitations allow. In offering them they announce that their method of instruction, so far as it is distinctive, rests on the assumption that ability to write a language well is the infallible test of a real knowledge of it. Unusual attention is therefore given to Greek and Latin composition, the first session being devoted almost entirely to the writing of exercises. This leads directly to an accurate knowledge of the forms and meanings of words, of the rules of syntax, and of the idioms. Every student of the classes in grammar is required daily to translate on the blackboard an exercise from Greek or Latin into English, and another from Englisn into Greek or Latin, and then to write out declensions and conjugations, with careful attention to the length of syllables and to accentuation. His work is then rapidly corrected by the teacher, who in making his corrections supplements the lesson of the text-book with instruction on the order of the words, on synonyms, on the derivation of English words suggested by the words of the exercise, and on other pertinent matters. This process involves great labor for the student and drudgery for the teacher, but it leads to a mastery of the grammar and to much more.

The second session is spent mostly in reading the easy Latin of Viri Romæ, Nepos, and Cæsar, or the easy Greek of the Reader and Xenophon, considerable attention being still directed to the writing of exercises. The student is encouraged in the habit of first reading the sentences in the Greek or Latin order of the words, and of then translating them in the English order and idiom. The translations are partly oral, partly written.

During the remainder of the courses the bright and diligent student proceeds from the easier authors to the more difficult, enlarging his vocabulary, extending and sharpening his knowledge of forms, syntax, and idioms, incidentally directing his attention to metres, geography, history, mythology, and antiquities, and perpetually and supremely to the effort to find the best English expression for the Greek or Latin thought ; for, while more than a third, and that too unspeakably the most difficult third, of our own magnificent language is derived from Greek and Latin, and while the study of these tongues is therefore intensely practical to those who speak English, and indispensable to all who would thoroughly acquire it, yet it is in the intellectual training to be had from the proper translation of the Greek and Latin authors that the advocates of classical learning find their amplest justification and defense, their most cogent plea. The ceaseless quest for the clearness, force, and beauty of the best English, in order to find an equivalent for the best Greek or Latin, calls into play every faculty of tbe mind and gives to classical studies an educational value which, we insist, no substitute can equal.

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The Germans are admitted to be the leading educators of the world. In the nine years' curriculum of their 443 gymnasia, which are their best secondary schools (corresponding to our colleges, but conferring no degrees and with fewer studies far better taught), they assign

to the study of Greek and of Latin a higher educational value than to any other study.* In the 227 Prussian gymnasia, for example, Latin, by the time devoted to it, is valued at 62, Greek at 36, and mathematics, the next highest study, at 34. In the other parts of Germany the difference is greater still. In the Saxon gymnasia, Latin is valued at 72, Greek at 41, mathematics at 33; in those of Würtemberg, Latin at 81, Greek at 40, mathematics at 33. Similarly, in the great public schools of England, including Oxford and Cambridge (with a higher estimate of mathematics, however), as well as in the Lycées, the leading secondary schools of France, the utility of the study of the Latin language as a medium of intellectual training and culture is everywhere recognized as supreme. And the results have justified the estimate. A system of education by which a host of great men, from Bacon to Gladstone, have been fitted for their splendid careers, is assuredly not a bad one, and in that system Greek and Latin have always held the first place.

The National Commissioner of Education reports that in the secondary schools of the United States there were, in 1889-1890, 100,144 students of Latin; in 1867-1898, 274,293, an increase of 174 per cent., and greater than any other study; that in the same nine years the students of Greek increased from 12,869 to 24,994, an increase of 94 per cent.; and that in 1897-1897, 49.44 per cent., almost exactly one-half of all the students of secondary schools, were studying Latin. When the immense number of classical students in the 629 colleges and universities of the United States is added to the 300,000 and more now in our secondary schools (314,856 in 1900) it will be plain that there is no decline in the demand for classical learning. (1903, total classical students in schools of all grades, 413,091).

While no wise man will seek to disparage or unduly to exalt any branch of knowledge, it is not invidious to say that though the vast expansion of science during the wonderful nineteenth century has contributed enormously to the comfort and the glory of man, yet an immense majority in the civilized nations will continue to feel more interest in man and his doings than in matter and its properties, more in literature than in science, and more in the applications of science than in its principles and processes

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Greek, the marvelous tongue of the most intellectual of all the races, the repository of a fine literature, in the crowded curricula of American schools, especially of coeducational schools, will, for ordinary students, naturally give place to the easier and more practical French and German. The more gifted or ambitious, who seek high scholarship and a more liberal culture, will learn Greek, and of course French and German. Nay, when a student of high spirit finds that notes to so common a work as Macaulay's History or Buckle's are in eight languages, he will be ashamed to skip any, and he will not be satisfied till he can read them all, including those in Greek.

It is timely to add that after long and earnest debate, the proposition to substitute French and German for Greek in the course for A. B. at Oxford and Cambridge has lately been voted down by a great majority. A needless wrangle, easy to settle once for all by giving a higher degree to those who learn all these languages and a lower to those who omit Greek.

* "The classical literature is, and will continue to be, the source of all our culture. It must remain, therefore, not only an indispensable but by far the most important study in our higher schools."—Frederic Gedike. And yet the German language owes little to Greek and Latin, while the English owes to them nearly half its words. The inference of course is that the study of Greek and Latin is far more useful to an American or an Englishman than it can be to a German, for the German derives culture from the study and the American or Englishman both culture and a knowledge of his language.

IX. The Academy is described after the Collegiate Departments.

## X. DEPARTMENT OF PEDAGOGY.

PROFESSOR ROARK.

The Normal Department of the State College exists under the authority of acts of the General Assembly approved April 23 and April 29, 1880. Section 7 of the first act briefly defines the object for which the Department

was established, "a Normal Department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the College." The second act provides the necessary endowment to make the Department effective.

Acting under the clause above quoted from the incorporating act, the authorities of the College have organized two distinct but closely related sub-departments of work for teachers. These are the Normal School and the College course in Pedagogy; the one designed to prepare teachers for the elementary schools; the other, for secondary schools and colleges.

In this arrangement the State College of Kentucky is unique and possesses a distinct advantage. Through the Normal School it comes into close and sympathetic touch with the masses of the teachers throughout the State; and through the college course it comes into vital contact with the more advanced teachers and the higher schools.

Many students who come to the Normal School are led, as the result of what they see of the college work, to undertake an advanced course. The Normal School thus discharges a function whose value cannot be overestimated, in that it introduces many of the most intelligent youth of the State to the facilities which the College can offer them.

### THE COLLEGE COURSE IN PEDAGOGY.

In 1893 the College authorities, in response to a strong demand for advanced instruction for teachers, organized a full collegiate course with Pedagogy as a major. This action put the State College on a par with other institutions in the North and West, for there are few State universities in those sections that do not support a department for the advanced teaching of education.

This course is co-equal in number and difficulty of subjects, in the time required for its completion, and in disciplinary and cultural value, with the other full collegiate courses. The purpose of the course is to fit young men and women for the best service as teachers in high schools, academies, and colleges.

To realize this purpose the course offers, in addition to the usual amount of work in science, language and mathematics, specialized instruction in the following subjects, which give to this course its distinctive character:

### GENERAL PEDAGOGY.

In the third term of the Sophomore year the student is given a general view of the whole field of Pedagogy through a synoptic outline of the subject. The purpose is to present enough of each topic in Pedagogy to show the trend of each important question in modern education. The work is carried on both by lectures and class discussions.

### PSYCHOLOGY.

In the first term of the Junior year the subject of Psychology is presented, chiefly with reference to its value to the teacher. Psychology is treated

as a basis of the science of education and the art of teaching. No time is spent in mere speculative discussions, but from the very first the effort is made to connect the subject vitally with the teacher's actual work in the school. Especial attention is given to the mind's functions in Acquiring, Assimilating, and Expressing. The value of Psychology also is shown as the basis of Methodology, and of Educational Economy.

The text-book is "Roark's Psychology in Education."

In the second term of the Junior year a few more of the valuable topics in higher Psychology are taken up. The special Psychology of some of the advanced branches will be studied.

The work will be library research, lectures, and class discussions.

### EDUCATIONAL ECONOMY.

In the third term of the Junior year the different subjects comprised under the general term "Educational Economy," are taken up in detail. No text-book is used, but the well-stocked library of the Department is put at the service of the students, and from all available sources they are expected to work up such subjects as (1) the organization and administration of the individual school, in country and city; (2) the organization and administration of State and city systems of schools; (3) the course of study; (4) fatigue; (5) buildings and grounds; (6) control and discipline; and (7) the correlation of the school and the community.

These topics are discussed with constant reference to their underlying psychological and sociological principles.

This term's work is particularly suited to those who are preparing for principalships and county or city superintendencies.

### METHODOLOGY.

Through the first term in the Senior year the student carries the work in Methodology, all of which is based directly upon Psychology.

The principles of general method, and the special methods of each school subject are thoroughly discussed, and much drill is given in the making of lesson-plans.

The text-book used is "Roark's Method in Education."

### THE HISTORY OF EDUCATION.

The second term of the Senior year is devoted to the History of Education.

It is found much the best plan to place this study last in the curriculum, because by the time it is taken up the students in Pedagogy are sufficiently familiar with the different divisions and problems of the subject to understand and interpret the history of educational development.

The text-book used is "Seeley's History of Education," but in this subject the library is fully used.

### PROFESSIONAL READING.

For a student to get the best results from the study of any subject he should read as widely as possible in the literature of the subject. This is

especially true of education, which has such a wealth of literature and touches closely so many other subjects. One term, and when possible more time, is devoted to the reading and analysis of such books as Butler's "The Meaning of Education," Jordan's "The Care and Culture of Men," Hanus' "Educational Aims and Educational Values," Henderson's "Education and the Larger Life," Hinsdale's "Jesus as a Teacher," etc.

The department library is well stocked with the best pedagogical literature, and pupils are urged to make constant use of it.

#### OBSERVATION WORK.

As much time as possible is used by the students in visiting schools in the city of Lexington and the rural districts near by. Reports upon this observation of the work of experienced teachers are prepared and handed in by each pupil, and form the basis of class discussions.

#### THESES.

Each candidate for the Bachelor's Degree in Pedagogy is required to write a thesis upon some theme assigned by the Dean. This work must be done acceptably and a copy of the thesis left with the Department.

## XI DEPARTMENT OF CIVIL ENGINEERING.

### PROFESSOR BROOKS.

The course of Civil Engineering is planned to acquaint the students with the knowledge of the subjects necessary to enable the civil engineer to develop himself into a skilled practitioner of his profession in any of its several branches So far as is possible, the importance of each subject taught is illustrated by its application to some work similar to that which is met with in actual practice. An effort is made to render the course valuable, not only for the professional uses, but also from an educational standpoint; therefore, while the student is learning each subject, both theoretically and practically, the training of his mind as well as the needs of his profession is kept in view. In addition to the purely technical matters included in the course, provision is made for the study of English, History and Political Economy.

#### EQUIPMENT.

The Department of Civil Engineering occupies the second floor of Engineers' Hall, which contains an office and recitation and drawing-rooms for the accommodation of classes of twenty-five students. The drawing-room is equipped with tables, boards, drawing paper, and all the larger and more expensive drawing instruments, which are at the disposal of all students. The surveying instruments belonging to this Department are of the highest grades of the various makers, and among them are included five transits—one each by Buff and Berger, Heller & Brightly, Keuffel & Esser, Mahn, and Ware; three levels by Gurley, Brandis, and Seelig & Kandler; a sextant by Gurley; a compass by Gurley; a plane-table by Keuffel & Esser, a precise pantagraph, and a solar instrument by Saegmüller, together with level and stadia rods, tapes, and other minor accessories. The library for

the use of students in engineering contains a well selected supply of standard literature and periodicals pertaining especially to Civil Engineering.

The technical studies in the Course of Civil Engineering fall under the heads of Drawing, Surveying, Construction, Applied Mechanics, Bridge and Machine Design, and Sanitary Engineering.

### LABORATORIES.

Instruction is given in the Physical Laboratory during the first term of the Sophomore year, and in the Chemical Laboratory during the second term of the Junior and Senior years.

### DRAWING.

The work in drawing is begun in the first term of the Freshman year, and consists of free-hand sketching from models, engineering structures, and from drawings, and in practice in the use of drafting instruments. In the Sophomore year the time is occupied in mapping, with exercises in topography, and special attention is given to the rapid and accurate formation of Roman and other appropriate styles of letters. In the second term, four hours a week are devoted to the solution of problems in Descriptive Geometry. During the winter of the Junior year a topographic map is plotted from notes of a survey made by the class during the autumn. Such a map made by the present Junior class embraces four city blocks, a farm of about two hundred acres, and was plotted on a scale of two hundred feet to an inch. One hour a day during the second term is devoted to problems in stone-cutting. A topographic map of railroad location, with cross sections and profile, is completed in the third term, and graphic analyses of frame structures are made during the year. In the Senior year the work in drawing consists of problems in design and of construction details.

*Text-books:* Church's Descriptive Geometry; Siebert & Biggin's Stone Cutting; Reinhardt's Technique of Mechanical Drafting.

### SURVEYING.

The course in Surveying is begun in the second term of the Sophomore year, with the study of text-books on the theory of plane surveying, supplemented by ample practice in the solution of numerical examples. This is followed by daily field practice in the use and adjustment of surveying instruments, with exercises in leveling, determination of inaccessible distances, and in farm surveys. In the first term of the Junior year a topographic survey of a tract of land adjacent to the College property is made, based on a system of accurate triangulation. In the second term the theory of railroad surveying is studied, especial attention being given to spirals and other modern features of railroad practice. A line of railroad is run and cross sectioned, and an estimate made of the cost of construction. The study of Geodesy is taken up in the Senior year, embracing the theory of adjustment of a system of triangulation and the methods of determining latitude, longitude, and azimuth. The State College system of triangulation has been begun and will be yearly perfected and extended by the Senior classes.

*Text-books:* Merriman and Brooks' Hand-book for Surveyors; Brooks' Street Railway Location; Nagle's Railroad Engineer's Field Book; Merriman's Geodetic Surveying.

### CONSTRUCTION.

The methods of Construction are taught by lectures on limes, cements, wood, steel, and other building material; on principles of foundations on land and under water; on masonry walls and dams; on roads, railroads, and street paving; on the theory and erection of arches; on tunneling, and on the construction of high steel buildings. The lectures include descriptions and sketches of notable existing structures, and short excursions will be arranged for the class as often as possible. The latest methods of conducting tests of cement, iron, steel, wood, brick and other material are practised by each student in the well-equipped laboratory belonging to the College.

*Text-book:* Baker's Masonry.

### APPLIED MECHANICS.

The work in applied mechanics extends over the Junior and Senior years, and includes the theory of the strength and elasticity of beams, columns, and shafts; of stresses in framed structures and arches; of the theory of dynamos and steam engines and its application to pumping and hoisting machinery and to locomotives

*Text-books:* Merriman's Mechanics of Materials; Unwin's Elements of Machine Design; Merriman & Jacoby's Roofs and Bridges, Parts I and II; Barr's Pumping Machinery; Bowser's Analytic Mechanics.

### BRIDGE DESIGN.

The course in Roofs and Bridges is begun in the first term of the Junior year and continues through two years. The theory of computation of stresses by both analytical and graphic methods is thoroughly taught from the text-book and numerous numerical examples. At the beginning of the Senior year the design of bridges is begun, and the method of instruction is to proceed from the simple to the complex. The outline and details of existing structures are examined, and the student becomes familiar with drafting-office methods by constant reference to working drawings.

*Text-books:* Merriman & Jacob's Roofs and Bridges, Part III; Howe's Roof Design.

### SANITARY ENGINEERING.

The work in Hydraulics includes the study of the flow of water through orifices, pipes, and large channels; the theory and tests of water motors and the measurement of power. In Sanitary Engineering the course comprises the consideration of the separate and combined systems of sewerage; the methods of sewage disposal, and the collection, purification, and distribution of a system of water supply.

*Text-books:* Merriman's Hydraulics; Ogden's Sewerage.

## XII. DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

PROFESSORS ANDERSON AND FAIG, ASSISTANT PROFESSOR WILSON.

### EQUIPMENT AND FACILITIES.

This department was organized August, 1891, and is now one of the most completely equipped in the College. Mechanical Hall contains a floor area of about 20,000 square feet, is constructed of stone and pressed brick,

and is well furnished with modern conveniences for work in Mechanical and Electrical Engineering. The building contains three recitation-rooms, two drawing-rooms, three offices, a wood and pattern shop, two boiler-rooms, wash-room, tool-room, engine-room, two machine-shops, blacksmith shop, foundry, and two large rooms devoted to experimental engineering. A two-story brick building is well equipped for work in photometry and magnetic measurements. The building is isolated, so that absolute work may be carried on. A first-class technical library is at the disposal of all students in Engineering. The equipment of the different rooms is briefly described below.

The drawing-rooms coutain drawing tables, drawing boards, curves, scales, T-squares, and other special drawing apparatus, to accommodate one hundred students.

The engine room contains a 10-inch by 24-inch Hamilton-Corliss non-condensing engine, which supplies the motive power for all the work-shops.

The wood-shop contains twenty benches, each with a complete set of wood-working tools, twenty-three woodturning lathes, each with a complete set of turning chisels, band-sawing machines, universal wood-worker, wood-trimmer, hand-mortiser, fret saw, double circular saw, and grindstone.

The foundry contains a 30-inch cupola furnace, with a capacity of a ton of metal per hour, a brass furnace, twelve complete sets of molders' tools, twelve benches; also ladles, clamps, core-room, core-oven, pattern-rack, and the tools used in a practical foundry.

The blacksmith shop is equipped with eighteen forges. The down-draft system is used. Each forge is furnished with an excellent set of blacksmith tools. A power hammer is available for heavy iron or steel forging.

The forge shop represents the best modern practice.

The machine-shop contains six lathes, one milling machine, one self-feed drill, one hand-feed drill, one planer, one shaper, one tool-grinder, one dry emery grinder, one wet emery grinder, one universal grinding machine. two sensitive drills, and twelve iron vises and benches for vise work in metal, an air compressor and pneumatic tools.

The tool-room is equipped with a fine assortment of superior tools for work in iron, steel, brass, and wood, and contains such stock and supplies as may be used in constructions in the mechanical laboratories named above.

The wash-room contains lockers for one hundred students, and is supplied with marble basins.

The boiler-houses contain, respectively, a fifty horse-power Babcock and Wilson water-tube boiler, a Dean Bros.' No. 3 steam pump, and a fifty-five horse-power tubular boiler, and a Davidson No. 3 steam pump.

The Experimental Laboratory is the best equipped in the South, and besides being well supplied with steam engine indicators, planimeters; steam gauges, pyrometers, reducing motions, scales for measuring, micrometer, and vernier calipers, thermometers, calorimeters, sieves. cement samplers, scales for weighing, extensometers, water-meters, etc.; it contains a thirty-five-horse-power Westinghouse compound engine, a forty-horse-power Hous-

ton, Stanwood & Gamble cross compound throttling engine, a twenty-five-horse-power automatic cut-off engine, a ten-horse Corliss Engine, a thirty five-horse-power Buffalo automatic cut-off engine, a ten kilo-watt Crocker-Wheel dynamo, an eight and a half kilo-watt Edison dynamo, a nine kilo-watt General Electric Company multipolar dynamo, a three and a half kilo-watt electro motor, a three-fourths kilo-watt electric motor, a Bracket-cradle dynamometer, portable voltmeters, and ammeters for continuous and alternating currents, wattmeters, photometers, galvanometers, instruments for absolute measurements of E. M. F. resistance and current, a Wood thirty-three kilo-watt alternator, a switchboard equipped with the most modern instruments, resistance boxes, and many instruments for refined investigation.

The equipment for the study of Telephony is the product of the American Electric Telephone Company. It comprises a varied assortment of subscriber apparatus for both the central energy and the local battery systems, connected for operation with a small switchboard having the apparatus necessary to show the operation of a four party selective system, as well as the ordinary central energy and magnet systems.

The laboratory also contains a number of friction brakes, a Flather hydraulic dynamometer, a 1,000-pound United States standard cement testing machine, and a 100,000-pound Riehle testing machine.

A double engine of fifty-horse power and an automatic cut-off engine (Atlas) have recently been added.

The equipment of the laboratory is such that many problems relative to Steam and Electrical Engineering may be discussed very comprehensively.

## COURSE OF STUDY.

The training given in this course, both practical and theoretical, is intended to prepare young men for positions of responsibility and trust in mechanical engineering work. The practical work extends over a period of two years, and includes the most important principles and operations in bench-work in wood, wood-turning, pattern-making, foundry-work, iron and steel forging, and hand and machine work in metal.

The theoretical work during the first two years consists of a thorough training in English, Chemistry, Mathematics, Physics. and Drawing, and during the last two years the fundamental principles of boiler, machine, dynamo, and engine design are taken up. By a careful solution of practical problems the student becomes familiar with the process carried on by the operators and designers of successful machine-building plants.

The course in Mechanical Engineering involves three separate lines of work.

1. *Mechanical Engineering*, the object of which is to give that training necessary to fit men to be operators and designers of steam machinery and manufacturing plants.

2. *Chemical Engineering*, intended especially to give the knowledge

requisite for the successful operation of iron and steel plants and the analysis of iron, steel, coals, and refractory substances.

3. *Electrical Engineering*, in which the theory, design, building, and operation of dynamos and motors are predominant.

Particular attention is paid to the construction of power and lighting stations.

The course of study in Mechanical and Electrical Engineering extending over a period of four years, leads to the degree B. M. E. (Bachelor of Mechanical Engineering). The advanced degree of Mechanical Engineer may be obtained by resident students in one year after taking the degree of B. M. E. from The State College of Kentucky or any other institution of equal requirements, they having successfully carried on the work laid down, passed a satisfactory examination, and presented an acceptable thesis. The advanced degree may also be taken in three years after obtaining the degree of B. M. E., provided the student has been engaged during the period of three years in practical engineering work, passes a satisfactory examination at the College, and presents an acceptable thesis.

At least two years' notice must be given to the Faculty that post-graduate work is done, and the work must be approved by the Faculty.

### FRESHMAN YEAR.

*Technical Instruction*—Twenty-six weeks, three hours per week. (*a*) Recitation on the forms of wood-working tools and the cutting and peculiarities of timber. (*b*) Lectures on the operation of the various forms of wood-working machinery. (*c*) Lectures on pattern-making, molding and casting.

*Mechanical and Free-Hand Drawing*—Twenty-six weeks, six hours per week, and ten weeks, ten hours per week. (*a*) This drawing includes free-hand sketches, drawing from copies and models, using parts of machines in the Mechanical Laboratories as models. (*b*) Free-hand lettering. (*c*) Exercises in tinting and shading. (*d*) Tracing.

*Shop-work*— Thirty-six weeks, twelve hours per week. (*a*) Bench-work in wood, including exercises in the following operations; Planing, sawing, rabeting, plowing, notching, splicing, mortising, tenoning, dove-tailing, framing, paneling, and the general use of carpenters' tools. (*b*) Wood-turning, involving the various principles of lathe-work in wood. (*c*) Pattern-making, which gives the student discipline in the construction of patterns for foundry work. (*d*) Foundry work, including the various operations of molding, core-making, and the molding of iron and brass.

*English*—Thirty-six weeks, five hours per week.

*Algebra*—Ten weeks, five hours per week.

*Solid Geometry*—Nine weeks, five hours per week.

*Trigonometry*—Thirteen weeks, five hours per week.

*Physics*— Twenty weeks, five hours per week.

### SOPHOMORE YEAR.

*Technical Instruction*—Sixteen weeks, one hour per week. (*a*) Lectures

on the handling of iron and steel in forging, and the methods of tempering and annealing steel. (*b*) Lectures on modern machine-shop practice.

*Mechanical Drawing*—Sixteen weeks, four hours per week; thirty-six weeks, five hours per week. (*a*) Drawing the parts of machines and complete machines to scale. (*b*) Geometric and Descriptive Geometry, problems. (*c*) Design of machine details.

*Shop-work*—Thirty-six weeks, twelve hours per week. (*a*) Exercises in iron and steel forging. (*b*) Exercises in vise-work in metal. (*c*) General machine work; including screw-cutting, drilling, planing, and the milling of iron, brass, and steel.

*Descriptive Geometry*—Nineteen weeks, five hours per week.

*Physical Laboratory*—Seventeen weeks, five hours per week.

*Analytical Geometry*—Thirty-two weeks, five hours per week.

*Chemistry*—Nineteen weeks, five hours per week.

*Surveying*—Nineteen weeks, three hours per week.

*Metallurgy*—Twelve weeks, six hours per week. The above includes the study of fuel and refractory substances, and the process employed in puddling iron and making steel.

*Calculus*—Ten weeks, five hours per week.

### JUNIOR YEAR.

*Kinematics*—Fifteen weeks, five hours per week. Under this head are studied the velocity ratios in various motions, construction of gears, cams, quick-return motions, and the manner of designing trains of mechanism.

*Mechanical Drawing*—Thirty-six weeks, ten honrs per week. The work consists of: Kinematic Drawing, including spur, bevel, worm and spiral gearing; Design of Shop Machines, such as lathes, planers, shapers, drills, etc., including an original design by each student of some shop machine complete, with all detail drawings.

*Chemical Laboratory*—Fifteen weeks, six hours per week.

*Analytical Mechanics*—Twenty weeks, five hours per week.

*Strength of Materials*—Fifteen weeks, five hours per week.

*Heat*—Ten weeks, five hours per week.

*Experimental Engineering Laboratory*—Fifteen weeks, six hours per week.

*Magnetism and Electricity*—Fifteen weeks, five hours per week.

*Graphic Statics*—Ten weeks. five hours per week.

*Calculus*—Twenty-two weeks, five hours per week.

*Electrodynamic Machinery*—Ten weeks, five hours per week.

*Theory of Machine Design*—Ten weeks, five hours per week.

*Dynamo and Motor Design*—Ten weeks, five hours per week.

*Electrical Appliances*—Ten weeks, five hours per week.

### SENIOR YEAR.

*Thermodynamics*—Fifteen weeks, three hours per week. This work consists of a study of the laws of thermodynamics, thermal capacities, and the application of thermodynamics to the steam engine.

*Steam Boilers*—Ten weeks, five hours per week. A study of the various commercial steam boilers, consumption of fuel, incrustations, determining the horse-power of boilers, boiler tests, the design of boilers for efficiency and economy, and the methods of transmission.

*Valve Gearing*—Fifteen weeks, five hours per week. The study of various forms of standard engine valves and methods of designing.

*Hydraulics*—Fifteen weeks, two hours per week.

*Alternating Currents*—Seventeen weeks, five hours per week.

*Mechanical Drawing*—Seventeen weeks, ten hours per week. This consists in working out valve gear problems.

*Engine aud Machine Designing*—Fifteen weeks, five hours per week. A study of the modern methods of designing engines, boilers and machines.

*Experimental Engineering*—Fifteen weeks, ten hours per week. Includes a study of the steam-engine indicator, making engine boiler, and materials for construction tests.

*Political Economy*—Ten weeks, five hours per week.

*Theory and Practice of Photography*—Ten weeks, five hours per week.

*Continuous Current Dynamos and Motors*—Nineteen weeks, five hours per week.

*History*—Twenty weeks, five hours per week.

*Dynamometers and Measurement of Power*—Twelve weeks, five hours per week.

*Thesis Work*—Nineteen weeks, twelve hours per week.

Every student, before he attains the degree of B. M. E., must present a satisfactory thesis on some new design of a machine, or an original investigation.

The greater part of the second and third terms of the Senior year is given to the preparation of this thesis. The subjects for theses are assigned to students by the Dean of the Mechanical and Electrical Engineering Faculty, and the completed theses are kept on file with the college records, that they may serve as a reference for future investigators

## ELECTRICAL ENGINEERING.

The special work in electrical engineering is closely associated with steam engineering and machine design, but opportunity is offered for carrying on research work. The thesis of any candidate for B. M E. may be along electrical lines.

The instruction is carried on with special reference to the needs of the practical electrical engineer. This work comprises the study of Central Station design and construction, of prime movers, the design and construction of electrodynamic machinery, the study of the problems involved in the distribution of electric light and the electric transmission of power, besides practice in electrical measurements, computation, and testing as applied to the construction and maintenance of electrical lighting and power plants, and to the purposes of investigation.

### JUNIOR AND SENIOR INSPECTION TRIP.

Annual trips, for the purpose of inspecting manufacturing and power plants, are taken by the Junior and Senior Classes. The Juniors, for several years, have visited Cincinnati, Hamilton and Dayton. During the last three years the Seniors have visited Chicago and its vicinity on the annual trip.

During the Spring Term, four days are set apart for the Junior trip and six for the Senior. The experiences of these trips are considered to be among the most valuable of the engineer's collegiate life.

### SUMMER SCHOOL OF MECHANIC ARTS.

The regular curriculum in Mechanical and Electrical Engineering has no elective course. In order to provide opportunity for instruction in them, a Summer School has been established, which continues in session ten weeks. In this school instruction is given in all the subjects taught in the regular course of Mechanical and Electrical Engineering, as well as in elective courses of the Mechanic Arts.

The Summer School is designed especially for technical students, locomotive engineers and firemen, stationary engineers, artisans and mechanics. Special attention is paid to courses in Mechanical Drawing, Machine Design and Shop-work.

## XIII. DEPARTMENT OF ANATOMY AND PHYSIOLOGY.

DR. PRYOR.

The Department of Anatomy and Physiology occupies one half of the second floor of the Natural Science Building. The space assigned to this Department includes a large lecture and general recitation-room, an office, and a laboratory.

The lecture-room is provided with a Colt's Criterion Stereopticon with a microscopic attachment. Arrangements are made to darken the room for the use of the lantern. This method of giving illustrated lectures is extensively used. A large number of lantern slides have been purchased or made. These include all kinds of anatomical, physiological, histological and pathological subjects, and they have been selected in order to show not only human anatomy but sufficient comparative anatomy to illustrate the development and evolution of the organ or system.

This method of instruction is quite popular with students. It affords a detail not to be obtained from models or charts or from subjects for dissection.

The lecture and general recitation-room is perhaps the best equipped room for its purpose to be found in any institution of the South. It is well lighted and ventilated, is provided with the best opera chairs with arm rests, affording every convenience and facility for student and lecturer.

The office contains the nucleus of a library. It is the purpose of the head of this Department to provide students with the latest and best books on Anatomy, Physiology, Hygiene, Histology, and Bacteriology.

The laboratory is provided with a Bausch and Lomb incubator, microscopes, microtomes, paraffin bath, etc. Tables are provided for individual students. Each table is equipped with the apparatus necessary for experimental work in Physiology. Students also have access to and use the kymograph, artificial circulation scheme (Porter's) capillary electrometer, artificial eye (Kühne's), heart-holder, orgograph, rheochord, plethysmograph, tambour, signal magnet, etc.

The Department is supplied with all kinds of models, such as an Auzoux papier-mache manikin, Auzoux's models of the eye in full and in section, models of the ear, larnyx, side of the face, hand, etc.; skeletons in full and in section; complete disarticulated skeletons for the individual use of students; a spaced skull; a Thoma-Zeiss Hæmacytometer; a Dudgeon's and a Marey's Sphygmograph; charts of all kinds, microscopes, etc. Microscopic slides are exhibited, showing the process of karyokinesis.

The method of instruction is by lectures, demonstrations and recitations. Drawings are made on the blackboard in chalk by the instructor, and the student is required to copy them. They include drawings of the heart and of the great blood-vessels in colors; sections of the eye showing the connection of the cornea and sclerotic coat at the origin of the ciliary muscle, one turn of the cochlea giving the organ of Corti in full; the membranous labyrinth; a cross section of the spinal cord; a scheme illustrating the system of neurones, central and peripheral, both motor and sensory.

The student is required to take notes from lectures, to copy and preserve them for study and reference. The note books are inspected at intervals, correct spelling and neatness in preparing them being insisted on.

All students who take the course leading to the degree of B. S. are required to attend lectures two terms of twenty weeks, five hours per week, during the Freshman year, and one term of fifteen weeks during the Sophomore year. The same amount of work is required of candidates for the degrees of B. Ped. and B. Agr. Candidates for the degree of A. B. are required to attend during the first term of the Sophomore year. Two classes for ten weeks are organized at the beginning of the second term for the benefit of Normal students who take the studies leading to the County Certificate.

### COURSE PREPARATORY TO THE STUDY OF MEDICINE.

This course, leading to the degree of B. S., with Anatomy and Physiology as the major study, is arranged to suit students who intend to enter upon a profession, and especially those who are to devote themselves to the study of medicine.

The studies of the Freshman and Sophomore years are identical with those of the other scientific courses, except that there is an additional course in Botany during the third term of the Sophomore year, and an additional course in Physics in the afternoon of that term. Students who take this course have the advantage of work in the X-rays.

The principal differentiation from the other scientific courses is found

in the Junior and Senior years. The first term of the Junior is devoted to the following studies: Systematic Zoölogy, Osteology, French, and laboratory work in Chemistry, the second term to Organic Chemistry, Osteology, French and laboratory work in Zoölogy; and the third term to Physical Chemistry, Osteology, French, and Physiological Chemistry. The first term of the Senior year is devoted to French, History, Logic, Geology, and laboratory work in Physiology; the second term to Entomology, History, Metaphysics, Physiology, and thesis work; and the third term, to Entomology, Political Economy, Moral Philosophy, Physiology, and Embryology.

*The Laboratory Course in Physiology*—Is required of Seniors during the first term in the afternoon from 2.30 to 4:30. The work begins with the central nervous system. The first exercise begins with the study of the normal frog; its posture when at rest; its movements when in water and on solids; compensatory movements, etc. A careful dissection of the frog's brain and drawings of it are made. Then follow experiments upon decerebrized frogs. Perfect cleanliness and aseptic surgical methods are observed as nearly as possible. Reflex action and inhibition of reflexes are studied with the pithed frog. The crayfish and earthworm are also used in the study of the central nervous system.

*Muscle*—The student must familiarize himself with the electrical apparatus necessary for the work that follows; nerve muscle preparations are made, the different kinds of stimuli are studied, graphic records are made with the kymograph, showing certain phenomena of muscular contraction, among them a single muscular contraction or twitch ; the effect of load ; repeated stimulation ; summation of stimuli ; superposition in tetanus, etc.

*Haemodynamics*—The artificial scheme used, which illustrates the mechanics of the circulation in the higher vertebrates, demonstrates arterial and venous pressure, and this is measured with mercury manometer. The scheme also shows the conversion of an intermittent stream into a continuous flow. Incompetence and stenosis of the mitral and aortic valves are demonstrated and with the thistle tube and kymograph pulse-tracings are made that compare favorably with those made with the sphygmograph by members of the class. Abnormal cases are often included.

*Normal Haematology*—Clinical examinations of the blood are made, including the enumeration of the blood corpuscles with the Thoma-Zeiss haemacytometer; the estimation of haemoglobin with Fleischl's haemometer; the staining and fixing of blood corpuscles; the reaction and specific gravity of blood, etc.

*The Special Senses*—The anatomy, gross and minute, of the eye and ear, and the physiology of these organs, are treated as fully as the time permits. During the year students dissect such mammals (dog, cat, and rabbit) as may be used to illustrate the lectures preceding and accompanying the practical work. Especial attention is given to the gross anatomy of the viscera, thoracic, abdominal and pelvic.

Every effort is made to stimulate and maintain interest throughout the course.

The students who complete the four years' course will be credited with one year's work at many of the Medical Colleges belonging to the American Association of Medical Colleges. Credit is also given for other work done. To a prospective student of medicine the advantages of this course can hardly be estimated. The additional training in Botany, Physics, Zoölogy, Osteology, Embryology, Chemistry, Physiological Chemistry, and in experimental and laboratory work in Physiology, places him far in advance of those who have not pursued these studies.

As a prerequisite to entrance upon this course, students must have completed the Classical Course of the Academy, or its equivalent.

To those who are to become students of medicine, this Department offers inducements rarely enjoyed in educational institutions.

*Text-books:* Martin's Human Body, Stewart's Manual, Syllabus of the Professor's lectures.

*Books of Reference:* Gray's Anatomy, Gerrish's Anatomy, Shaefer's Physiology, Hall's Physiology. American Text-Book, Loeb's Physiology of the Brain.

## XIV, XV. DEPARTMENTS OF GEOLOGY AND ZOÖLOGY.

PROFESSOR MILLER.

### Geology.

#### EQUIPMENT AND FACILITIES.

This Department occupies one-half of the second floor of the Natural Science Building.

The Geological Laboratory is fitted up with tables and chairs and contains the study-collection of fossils and minerals.

The Mineralogical Laboratory is arranged in its furnishings with special reference to its use as a mineral-testing laboratory.

The Geological Lecture Room, furnished with folding lecture-room seats, tables, lantern stands, sliding blackboard, wall screen, and means for quickly darkening the room, is admirably adapted for recitation and lecture uses.

The collections in Mineralogy and Palæontology are arranged and classified with special reference to their use in class instruction.

The Museum, occupying the entire third floor of the building, now contains the State Geological Survey Collection, a valuable addition to the instruction facilities of this Department.

As additional equipment may be mentioned the Department library of geological literature, consisting of Reports, both State and National, maps, charts, models, lantern slides, and photographic illustrations.

In addition to the facilities afforded by the in-door equipment, the situation of the College itself happens to be peculiarly favorable from a geological standpoint. Located as it is in the center of the Blue-grass Region, at the base of the Geological Series of the State, it affords logically the best starting-point for the student of Kentucky geology who would gain a clear comprehension of how the rock foundations of his State have been laid

Both for this reason, therefore, and because geology is pre-eminently an out-door study, the "Excursion" is made a prominent feature of the instruction in this Department. It is by the field work these excursions afford that the student's ability to apply in-door knowledge previously acquired is put to the test, and his powers of making generalizations in the open air are exercised.

### BRANCHES OF STUDY.

The general order of succession in the geological studies is as follows: (1) Palæontology; (2) Mineralogy; (3) Advanced Geology. Besides these, in which what follows is intimately based upon what precedes, are two self-contained studies; (4) A Shorter Course in Geology and (5) Economic Geology.

### II. PALAEONTOLOGY.

SECOND TERM—Required of Juniors who elect as their major study Geology, Botany, Zoölogy, Anatomy and Physiology, or Pedagogy.

Lectures on the nature and zoölogical positions of different fossil groups are given, and the student is expected to become familiar with the fossils themselves by actual examination. Special attention is paid to fossils common in Kentucky. The collections of the department are well suited for this purpose. The instruction is entirely by lectures and laboratory work.

### II. MINERALOGY.

THIRD TERM—This study follows Palæontology, and is required of the same students, with the addition of those who elect Agriculture as their major.

The object of the study is to render the students familiar with the composition and physical characters of those common minerals and rocks likely to be met with both in course of every-day observation and in geological pursuits. The instruction involves both laboratory and text-book work. Crosby's Tables for Determination and his Common Minerals and Rocks are the books used.

### III. ADVANCED GEOLOGY.

FIRST TERM—Required of students who elect as their major study Geology, Botany, Zoölogy, or Pedagogy.

Candidates for A. B. may take this or course IV.

It is meant to be the culmination for those who have availed themselves of all the opportunities for the study of Geology offered in this Department. It is to be hoped that some of these students may be induced to go further, and either in their home localities or elsewhere make a beginning of doing original work. Kentucky, with its large amount of territory practically unexplored geologically, offers an especially fine field to young geologists.

*Text-book:* Scott's Introduction to the Study of Geology.

### IV. SHORTER COURSE IN GEOLOGY.

FIRST TERM—For Seniors who are candidates for the degree of A. B. The only prerequisite for this course is the second term of Zoölogy.

*Text-book:* Brigham's Text-book of Geology.

SECOND TERM—Required of students who elect as their major study Geology, Agriculture, Chemistry, Physics, Civil Engineering, or Mining Engineering.

As the name indicates, it is the practical or inorganic rather than the organic side of Geology that is here made prominent. Historical Geology is studied briefly and in outline. Fossils are considered important in so far as they serve to determine rocks, whereas in General and Biological Geology the reverse may be considered true. Structural Geology becomes relatively important, and Mineralogy and Lithology occupy a leading place. Some of the topics of economic importance treated are: Common Rocks and Vein-forming minerals; Origin of Ore Deposits; Mining Terms and Methods; Coal; Petroleum; Natural Gas and Asphaltums; Building Stone, Clay, and Cement; Geological Fertilizers; Relation of Geology to Agriculture; Relation of Geology to Engineering.

*Text-book:* Tarr's Economic Geology, supplemented by lectures.

In addition to the above, a course of about seven lectures on the Relation of Geology to Agriculture is given in connection with the Short Course in Agriculture.

## Zoölogy.

### EQUIPMENT AND FACILITIES.

The Department of Zoölogy occupies two rooms on the first floor of the Natural History Building. These rooms are provided with tables and a special set of apparatus, including compound microscopes, for each student. Besides this there is a complete general equipment for all lines of zoölogical work, such as a full set of zoölogical charts, imported from Germany for use in the study of systematic Zoölogy; microtomes and paraffin baths for work in microscopy; a selection of type skeletons to illustrate osteology; alcoholic specimens of both marine and inland forms to illustrate general Zoölogy, with duplicates for class dissections; and finally the Department is equipped with a library of standard zoölogical literature, including the leading periodicals devoted to the interests of biological science. Moreover, opportunities for collecting, zoölogical material, as well as for studying the habits of living animals, are afforded by the "Excursions" mentioned above.

### BRANCHES OF STUDY.

These are six, enumerated as follows: (1) Systematic Zoölogy; (2) Laboratory Zoölogy; (2) Osteology; (4) Embryology; (5) Physiological Psychology; (6) Economic Entomology.

### I. SYSTEMATIC ZOÖLOGY.

FIRST TERM—Required of students who elect as their major study

Geology, Zoölogy, Botany, Agriculture, Chemistry, Pedagogy, Anatomy and Physiology, or Physics.

A general presentation of the subject is here attempted. The practical work is limited to that which can be satisfactorily accomplished in exercises of one hour each. Alternating with lectures on the different sub-kingdoms, classes and orders of animals, accompanied with some species determination by the student, a text-book, Arthur Thompson's Animal Life, is used to present to the class in a form suitable for discussion such interesting topics of Biology as Interrelation of Plants and Animals, the Struggle for Existence, Coloration of Animals, Social Life of Animals, Protoplasm, Origin of Life, Physiological Division of Labor, Animal Psychology, Principles of Embryology, The Past History of Animals, The Doctrine of Evolution, Heredity, Animal Life, and ours.

### II. LABORATORY ZOÖLOGY.

SECOND TERM—Required of those who elect as their major study Zoölogy, Geology, Botany, Pedagogy, Anatomy and Physiology, or Agriculture.

The work of this term consists largely of animal dissection, and it also involves an extensive use of the compound microscope. Students are taught not only how to examine under the microscope living organisms of small size, but also to prepare these and the tissues of higher animals as permanent mounts for microscopical study.

*Laboratory Text-book:* Needham's Zoölogy, furnished to each student as a part of the equipment, for the use of which a small fee is charged.

THIRD TERM—This term is devoted to laboratory work exclusively, and this consists of a thorough study of the anatomy and development of some vertebrate, as the frog.

### III. OSTEOLOGY.

FIRST TERM—Required of students who elect as their major study Zoölogy, Anatomy and Physiology, or Geology.

Five hours a week are given to the comparative study of the vertebrate skeleton—chiefly that of Mammalia.

*Text-book:* Fowler's Osteology of the Mammalia.

### IV. EMBRYOLOGY.

THIRD TERM—Required of Juniors who elect as their major study Zoölogy, Anatomy and Physiology or Agriculture.

Five hours a week are assigned for this study. Instruction consists of lectures upon the general facts and principles of Embryology, accompanied by practical work on the embryonic development of such vertebrates as the frog and chick.

*Text-book:* Balfour's Elements of Embryology.

## XVI. DEPARTMENT OF PHYSICS.

PROFESSOR PENCE.

### EQUIPMENT AND FACILITIES.

The Department of Physics occupies three rooms in the basement of the main College building. The principal lecture-room is eighteen feet by forty-four feet. The laboratory is twenty feet by twenty-four feet. The

third room is twenty feet by twenty-four feet, and is used for both lecture and laboratory work. These rooms are furnished with seats, cases for apparatus, working tables, electricity, gas, water, and drainage. One table is on piers. There is also a dark room.

The equipment of apparatus for experimental and demonstrative work is worth about $3,000. Some of the better pieces are a Geissler mercury air pump, delicate balances, a *Societe Genevoise* spectrometer, a Michelson interferometer, fine Wheatstone bridges and resistance sets, galvanometers, magnetometer, voltameters, voltmeters, animeters, a motor-generator with normal output of twenty amperes under twenty-five volts, a storage battery with normal output of ten amperes under twenty-five volts, a fine X-ray output with a fifteen inch spark induction coil from Queen & Co. There is also a good library, which contains some of the best standard works on Physics, and some of the best current scientific literature.

### COURSE IN PHYSICS.

The course in Physics is offered to those who may find in its schedule of studies on page —, lines of work which pursued will enable them to enter successfully on some life profession. It is intended for those whose natural tastes and abilities lead them to pursue such studies, as well as for those who wish to teach Physics, or to do other work in Physical Science. In the present highly scientific age, the greatest developments are being made in Physical Science, and those who are best able to utilize physical resources, are those who are best able to recognize physical laws and accurately interpret physical phenomena.

The course is not strictly technical, but is broadly scientific. As seen in the schedule of studies, three years are devoted to Theoretical and Experimental Physics, three and one-half to Mathematics and Astronomy, two to English, two to German, and one each to Chemistry, Physiology, Botany, and French. One year is also given to History and Political Economy, and one to Logic, Mental and Moral Philosophy. Four months are assigned to Zoölogy, and four to Geology.

## Instruction.

### FRESHMAN.

SECOND AND THIRD TERMS—Text-book: Twenty weeks, one hour daily. For students in Civil, Mechanical, and Mining Engineering.

*Text-book:* Gage's Elements of Physics,

### SOPHOMORE.

FIRST TERM—Text-book: Fifteen weeks, one hour daily. For students in Pedagogy, Agriculture, and in the Science courses.

*Text-book:* Carhart and Chute's High-School Physics.

Laboratory: Fifteen weeks, one hour daily. Elementary experiments in the Mechanics of Solids, Liquids, and Gases, and in Heat. For students in Civil, Mechanical, and Mining Engineering.

*Text-book:* Gage's Physical Experiments.

SECOND TERM—Laboratory: Ten weeks, one and one-half hours daily. (1) Experiments in Sound, Light, Electricity, and Magnetism. For students in Mining Engineering. (2) Experiments in the Mechanics of Solids, Liquids, and Gases, and in Heat. For students in Pedagogy, and in the Science courses.

*Text-book:* Gage's Physical Experiments.

SECOND AND THIRD TERMS—Text-book: Twenty weeks, one hour daily. For students in the Arts courses.

*Text-book:* Gage's Elements of Physics,

THIRD TERM—Laboratory: Ten weeks, one and one-half hours daily. Experiments in Sound, Light, Electricity and Magnetism. For students whose major study is Anatomy and Physiology, Pedagogy, Chemistry or Physics.

*Text-book:* Gage's Physical Experiments.

**JUNIOR.**

FIRST TERM—Text-book and lectures: Fifteen weeks, one hour daily. Electricity and Magnetism. For students whose major study is Physics or Mining Engineering.

*Text-book:* S. P. Thompson's Electricity and Magnetism.

SECOND TERM—Text-book and lectures: Ten weeks, one hour daily. Heat*.

*Text-book:* Cumming's Heat.

SECOND AND THIRD TERMS—Laboratory: Twenty weeks, one and one-half hours daily. Physical Measurements in Mechanics, Sound and Heat*.

*Text-book:* Sabine's Physical Measurements

THIRD TERM—Text-book and lectures: Ten weeks, one hour daily. Light*.

*Text-book:* Glazebrook's Light.

**SENIOR.**

FIRST TERM—Laboratory: Fifteen weeks, one and one-half hours daily. Physical Measurements in Light, Electricity and Magnetism*.

*Text-book:* Sabine's Physical Measurements.

SECOND AND THIRD TERMS—Thesis*.

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*For students whose major study is Physics.

## XVII. DEPARTMENT OF ENTOMOLOGY.

PROFESSOR GARMAN,

Of the Experiment Station.

In the Agricultural Course and in the Scientific Courses, in which Botany and Zoölogy are major studies, instruction in Entomology begins with the second term of the Senior year, students in these courses meeting the first hours of Tuesdays and Thursdays.

Occasional inquiries for Entomologists to fill positions in other institutions have lately been received at the College, and have suggested the

desirability of a special course of study in Entomology that will fit those who pursue it for the work required in Agricultural Colleges and other institutions. The Scientific Course with Entomology as major study is intended to meet this want. It is estimated by our best entomologists and statisticians that we lose annually in this country from the depredations of injurious insects not less than $100,000,000. If this be so, it is highly important that a knowledge of insects and their habits should be disseminated among the people, and it is especially important in Kentucky, where the leading industry is agriculture. It has been urged that a reduction of a crop to the extent of one-fourth or one-half of its value by insects should be regarded as a tax of twenty-five or fifty per cent. on its value. Such a tax is collected year after year, often without any attempt at resistance. It is the purpose of the Entomological work at the College to place in the hands of the students who expect to make farming their occupation such means of defense against loss as are known to those who have given the matter study. The Department is especially well provided for in this direction, having the benefit of the work done at the Experimental Station and having access to the collections, apparatus, and library accumulated for Station work. The collection now contains examples of most of the injurious insects which are found in the United States, and is constantly being enlarged. The Station is well supplied with breeding cages for use in studying the habits and life-histories of insects, so that students who wish to do so have an opportunity to observe for themselves the various stages presented by a developing insect, and may see it in many cases actually engaged in its destructive work. An insectarium recently added to our facilities, gives us increased opportunity in this field of investigation.

## XVIII. DEPARTMENT OF MINING ENGINEERING.

PROFESSOR NORWOOD.

State Inspector of Mines and State Geologist.

The establishment of this School was authorized by an Act of the General Assembly, Session of 1898. The course is laid out with the design of affording the student a thoroughly good foundation for professional work in Mining, Metallurgy, Assaying and Geology, and of so preparing him that he may readily and quickly assimilate that knowledge of the details of practice which may be gained only through experience. The effort is made to acquaint the student not only with the methods of mining and mine management in particular, but to give him such instruction in mechanical and civil engineering as may satisfy the needs of the modern mining engineer. The schedule of studies for the first two years, while distinctive in some minor respects, upon the whole is closely similar to those followed during the second years in the Schools of Mechanical Engineering and of Civil Engineering. Actual differentiation occurs at the entrance of the Junior year.

The course in mining is made as "practical" as the limitations of college instruction permit. With this in view, the equipment project for the

Mining Laboratory includes the installation of such an ore dressing and coal washing plant as will permit work to be conducted along practical lines. It is intended that the Laboratory shall not only serve the purpose of instruction, but that it shall prove helpful, as a testing laboratory, to those engaged in mining operations in the coal, lead, zinc and spar districts of the State. As part of the equipment, therefore, a standard, full-sized Wilfley concentrating table has been installed. A Hallett Hand Jig has also been added; and a standard three-compartment Hartz Jig has been promised by a friend of the College. Through the generosity of Mr. John B. Atkinson, President of the St. Bernard Mining Company, Earlington, Ky., the Laboratory is provided with a complete ventilating fan and fanhouse, a Campbell coal-washer, and a complete model of the St. Bernard Mining Company's large coal-washing plant. The fan has been so installed that various problems relating to mine ventilation may readily be studied. The machines are operated by electric motor.

In Chemistry three terms are required. In the Sophomore year the course consists of lectures and recitations on the non-metals and their compounds, and the simpler laws of chemical change. In the Junior year, the first term is devoted to the study of the metals and their more important compounds, and to qualitative analysis. Laboratory work in quantitative analysis is taken up in the third term.

In Metallurgy two terms of work are required. The first term's work is the same as that required in the Course of Mechanical Engineering and of Civil Engineering. Huntington and Macmillan's text-book is used as a guide, and nine or ten metals, including iron, copper, zinc, tin, lead, nickel, cobalt, silver, and gold are studied. The work of the second term, which occurs in the Junior year, consists of practical work in the Metallurgical Laboratory, and will include assaying, together with the more comprehensive study of certain processes for the extraction of silver and gold, such as the amalgamation, chlorination and cyanide processes.

The instruction in the special theme of Mining (including both coal and metal), which begins with the Junior year, is laid out along a continuous line, each subject being introductory to that which follows, and is given by lectures, supplemented by text-books and special reading. The Department is equipped with an excellent electric light stereopticon, and a reflectoscope, with a large number of special slides for illustrating lectures, and in addition thereto many charts and "blue prints," illustrating mining methods and mining machinery, have been procured. A general statement of the subjects discussed under the head of Mining is given under the appropriate years.

The State College is exceptionally well situated with reference to the practical study of both coal and metal mining (including lead, zinc and iron), and for the study of metallurgical practice in certain lines, there being within the State numerous coal and metal mines, and several iron and steel metallurgical establishments, within easy reach of Lexington. Practical work in concentrating lead ores may be studied at the Gratz and the

Kissinger mines, in near-by counties. At the Gratz mine the plant inclndes crushers, jigs, a Huntington mill, and Woodbury concentrators. At the Kissinger mine the plant includes crusher, rolls, Huntington mill, Woodbury concentrators, and a smelter. The latter mine may be reached by trolley line and a short drive. Elaborate lead and zinc concentrating plants may be studied in the Western part of the State. Coal-washing and coking may be studied at Ashland, where a Robinson washer is used, and at Earlington, where a Campbell plant is in operation. The copper mines of Tennessee, the iron mines of Virginia, Alabama and Tennessee, and the gold mining regions of Alabama and Georgia, with their accompanying metallurgical plants, may be reached within twenty-four hours or less of travel.

### COURSE OF STUDY.

The schedule on a succeeding page exhibits the studies that lead to the degree of B. E. M.

The courses are as follows :

#### FRESHMAN YEAR.

FIRST TERM—English, Plane Trigonometry, Woodwork (Tools and Machinery,) Drawing (Lettering, etc.), Shop Work (Bench and Lathe).

SECOND TERM——English, Solid Geometry, Physics, Free-hand Drawing, Mechanical Drawing.

THIRD TERM—English, Higher Algebra, Physics, Mechanical Drawing.

#### SOPHOMORE YEAR.

FIRST TERM—Analytical Geometry, Chemistry, Physical Laboratory, Geology, Iron and Steel Forging, Mechanical Drawing.

SECOND TERM—Analytical Geometry, Surveying, Metallurgy Descriptive Geometry, Physical Laboratory, Geometric and Descriptive Geometric Problems.

THIRD TERM—Analytical Geometry, Calculus, Descriptive Geometry, Elementary Design, Surveying and Mapping.

#### JUNIOR YEAR.

*Electrical Engineering*, first term; Assistant Professor Wilson.

*Calculus concluded*, first and second terms; Professor White.

*Strength of Materials*, first term; Professor Faig.

*Chemistry of Metals*, first term; Professor Kastle.

*Surveying and Mapping*, first term; Professor Brooks.

*Metallurgy and Assaying*, second term; Professor Kastle.

*Analytical Mechanics*, second and third terms; Professor Faig.

*Electro-dynamic Machinery*, second term; Assistant Professor Wilson.

*Mineralogy*, *Blow-piping*, third term; Professor Miller.

*Quantitative Analysis*, third term; Professor Kastle.

*Electrical Appliances*, third term; Assistant Professor Wilson.

MINING 1. INTRODUCTORY, EXCAVATING, QUARRYING.—(*a*) Objects and definitions; commercial importance; connection with auxiliary sciences; history; coal and metal mines compared; mineral rights, etc. (*b*) Excava-

tion in soft ground and in rock; tools and methods; steam excavators and dredges; by water, etc. (*c*) Explosives and blasting; kinds and effects of explosives; theory and practice of blasting; placing, charging, and firing holes under various conditions; precautions in blasting; substitutes for explosives. (*d*) Quarrying; plants and methods for various sorts of rock; underground quarries. *Eight weeks.*

MINING 2. BORING, SHAFT-SINKING, SHAFT-BORING.—(*a*) Boring; methods with auger, with rods, and with rope; rotary boring, boring tools; casing; recovering lost tools; drive piping. (*b*) Shaft-sinking; general principles. Methods in soft-ground and in rock. Hoisting, ventilating, and draining during sinking. Timbering, walling, tubbing, and linings for special cases. Sinking linings in watery ground and in quicksand. (*c*) Shaft-boring; general observations. Various methods described and compared. *Four weeks.*

MINING 3. PROSPECTING, DEVELOPMENT, METHODS OF WORKING.—(*a*) Mineral deposits; geological considerations. Relations of ore deposits to country rock; influence upon topography; connection between topographic forms due to geological structure and the existence of veins. General broad classification of mineral deposits, lodes, veins, beds and placers; regular and irregular. Elements defining the nature and mode of occurrence of a deposit. Effect of variability and disturbances of stratified and crystalline rocks. Irregularities and disturbances of beds and veins. Solution of problems. (*b*) Prospecting: Systematic methods. Value of geology. Tracing outcrops; hillside and stream float; old and existing works; traditions; trenching and flooding; bore-holes, adit levels, pits, cross-cuts. Tracing lodes; effects of cross-courses as to heaves and contents: panning. Dipping needle. (*c*) Exploration and Development: Preliminary questions as to commercirl feasibility of working particular deposits. Choice of exploratory methods—shaft, adit, slope. Location of openings with reference to development. Laying out the workings, and order of exploitation. Driving tunnels, drifts, gangways, slopes, levels, cross-cuts. Advancing by single breast and by benches. Maintaining alignment—"sights." Accidents. Upraises—vertical and Inclined. Winzes—methods of sinking and raising. (*d*) Methods of Working and of Supporting Excavation: General rules as to choice of mode of working a way, etc. Breaking ground (1) in coal mining, and (2) in metal mining. Support of excavations (1) by pillars of mineral, (2) by timbering, (3) by caving and filling. Methods of working applicable to depcsits according to their origin, thickness, inclination and character. Coal, Vein, and Mass mining, Open cuts and stream workings. Hydraulic mining. Dredging. *Seventeen weeks.*

MINING 6. MINE SURVEYING.—General principles of underground surveying. Carrying meridian into mine, etc ; locating lines of work; construction of mine maps and sections; plumbing shafts, surveying bore-holes, etc. *Three weeks.*

### SENIOR YEAR.

*History and Political Economy*, President Patterson.

*Hydraulics*, first term; Professor Brooks.

*Steam Engine*, *Compressed Air*, first term; Professor Anderson.

*Economic Geology*, second term; Professor Miller.

*Alternating Currents and Power Plants*, second term; Assistant Professor Wilson.

*Mine Plant Design*. (Drawing.)

*Thesis work*.

MINING 4. ORE AND COAL DRESSING, MILLING, COAL-WASHING.—General principles and theories. Picking, crushing; theory of mineral separations; sizing, classification, jigging, concentration and concentrators. Coal-washing. Gold and silver milling; stamp and other mills. Amalgamation: Theory and practice; care of mill plates; losses of mercury, etc. Pan amalgamation. "Patent" substitutes for plate amalgamation. Pan assays for free-milling ores, etc. *Five weeks; afternoons.*

MINING 5. ORE DRESSING LABORATORY.

MINING 6. MINE SURVEYING.—Practice, map construction. *Afternoons, ten weeks; Saturdays, fourteen weeks.*

MINING 7. EXTRACTION, VENTILATION, ETC.—Extraction and removal of material: Mine and surface haulage roads; rope and other means of haulage. Hoisting Drainage: Controlling and removing water; dams; drainage levels, air lift; Ventilation: Theoretical considerations; mine gases; methods of ventilation; distribution of air supply. Illumination. Descent and ascent. Accidents: Causes; places; explosions; safeguards; rescue and relief. *Seventeen weeks.*

MINING 8. MINE PLANT.—Machinery and appliances for mining, hoisting, draining, ventilating, hauling, screening, loading, storing, etc. *Ten weeks.*

MINING 9. EXAMINATION AND VALUATION OF MINES, ETC.—Methods and precautions in examination and valuation. "Salting," concealing exhausted workings, etc. Relation of capital invested to actual dividends. Mine management. Cost sheets. *Three weeks.*

MINING 10. MINE VISITATION.—Opportunity for visiting mines under the guidance of the Dean, or of the Assistant Inspector of Mines, will be given at the close of the term.

The larger part of the third term is devoted to thesis work, sub?ects for which are assigned by the Dean.

## DEGREES.

The State College confers the degrees of—

Bachelor of Science (B. S.),
Bachelor of Arts (A. B.),
Bachelor of Agriculture (B. Agr.),
Bachelor of Civil Engineering (B. C. E.),
Bachelor of Mechanical Engineering (B. M. E.),
Bachelor of Mining Engineering (B. E. M.),
Bachelor of Pedagogy (B. Ped.),
Master of Science (M. S.),
Master of Arts (A. M.),
Master of Agriculture (M. Agr.),
Master of Civil Engineering (C. E.),
Master of Mechanical Engineering (M. E.),
Master of Mining Engineering (E. M.),

### CONDITIONS OF GRADUATION.

To attain the Bachelor's degree the applicant must have been a student of the College at least one session, and he must have passed the examinations on all the courses of study leading to the desired degree.

To attain the Master's degree the applicant must have attained the Bachelor's; he must have pursued, for at least one session in this College or two sessions elsewhere, a major study selected by himself and one or two minor studies assigned him by the Faculty; and finally, he must at least thirty days before the end of the session, have satisfied the Faculty that he is duly proficient in his studies, and have presented to the College an acceptable thesis on his major study or on some part thereof.

If the applicant be an alumnus of another institution of learning, he must satisfy the Faculty that he has completed a course of study for his first degree equivalent to that prescribed in this College for the same degree; and he must matriculate and study under the direction of the Faculty at least one session.

A student who completes a part of any course in a satisfactory manner may, in attestation of the fact, receive a Certificate of Proficiency.

## COURSES GROUPED FOR DEGREES.

### I. COURSES FOR THE DEGREE OF B. S.

History, Political Economy, and Metaphysics,.........President Patterson.
Botany, ........................................................Professor Matthews.
The English Language and Literature, ..................Professor Mackenzie.
Military Science, ............................................ ..... Lieutenant Burtt.
Chemistry, ........................................... .. ..............Professor Kastle.
Mathematics and Astronomy,........ ........................ ...Professor White, Dean.
The French and German Languages,.......... ........... Professor Wernicke.
Anatomy and Physiology, .........................................Professor Pryor.
Geology and Zoölogy, ............................................Professor Miller.
Physics,..................................................................Professor Pence.
Drawing,................. ..................................... .........Professor Muncy.

For the degree of M. S,, Chemistry, Biology, Geology, Mathematics, or Physics may be selected as major study; and minor studies will be assigned from Biology, Chemistry, Geology, Mathematics, Physics, English, History, Political Economy, Metaphysics, French, and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, CHEMISTRY.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Botany (Entr.) |
| SOPHOMORE. | 1 | Anal. Geom. | German. | Physics. | Physiology. | Drill. | Botany. |
| | 2 | Anal. Geom | German. | Botany. | *Chemistry.* | Drill. | Physics. |
| | 3 | Anal. Geom. | German. | Calculus. | *Chemistry.* | Drill. | Physics. |
| JUNIOR. | 1 | *Theor. Chemistry.* | *English.* | Calculus. | French. | Drill. | *Chemistry.* |
| | 2 | *Theor. Chemistry.* | *English.* | Calculus. | French. | Drill. | *Chemistry.* |
| | 3 | *Theor Chemistry.* | *English.* | *Theor. Chem.* | French. | Drill. | *Quant. Analysis.* |
| SENIOR. | 1 | Zoölogy. | History. | Logic. | *Chem Reading.* | Drill. | *Organ. Chemistry.* |
| | 2 | *Quant. Analysis.* | History. | Metaphysics. | *Econ. Geology.* | Drill. | *Chem Research* |
| | 3 | *Quant. Analysis.* | Polit. Economy | Mor. Philos. | | Drill. | *Chem. Research Thesis.* |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ZOÖLOGY)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. | Physics. | Physiology. | Drill. | Botany. |
| | 2 | Analyt. Geom. | German. | Botany. | Chemistry. | Drill. | Physics (Lab.) |
| | 3 | Analyt. Geom. | German. | Syst. Botany. | Chemistry. | Drill. | |
| JUNIOR. | 1 | Zoölogy. | Osteology. | | French. | Drill. | Chemistry (Lab.) |
| | 2 | Palæontology. | English. | Advanced Psychology. | French. | Drill. | Zoölogy (Lab.) |
| | 3 | Mineralogy. | English. | | French. | Drill. | Embryology. |
| SENIOR. | 1 | Entomology. | History. | Logic. | Spher. Trigon. Astronomy. | Drill. | Geology. |
| | 2 | Entomology. | History. | Metaphysics. | | Drill. | Thesis. |
| | 3 | Entomology. | Polit. Economy. | Mor. Philosophy. | Astronomy. | Drill. | Thesis. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, GEOLOGY.)

| YEAR | TEAM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. | Physics. | Physiology. | Drill. | Botany. |
| | 2 | Analyt Geom. | German. | Botany | Chemistry. | Drill. | Lab. Physics. |
| | 3 | Analyt. Geom. | German. | Syst. Botany. | Chemistry | Drill. | |
| JUNIOR. | 1 | Zoölogy. | Osteology. | | French. | Drill | Lab. Chem. |
| | 2 | Palæontology. | Surveying. | Mech. Drawing. | French. | Drill | |
| | 3 | Mineralogy. | | Mech. Drawing. | French. | Drill. | Surveying. |
| SENIOR. | 1 | | History. | Logic. | Spher. Trigon. Astronomy. | Drill. | Gen. Geol. |
| | 2 | | History. | Metaphysics. | Geology. | Drill. | Thesis. |
| | 3 | | Polit. Econ. | Moral Philos. | Astronomy. | Drill. | Thesis. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, BOTANY.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. | Physics. | English. | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German. | Gen. Botany. | Chemistry. | Drill. | Lab. Physics. |
| | 3 | Analyt. Geom. | German. | Syst. Botany. | Chemistry. | Drill. | |
| JUNIOR. | 1 | Zoölogy. | Plant. Histology. | Econom. Botany. | French. | Drill. | Lab. Chemistry. |
| | 2 | Palæontology. | | Econom. Botany. | French. | Drill. | Lab. Zoölogy. |
| | 3 | Mineralogy. | Plant Physiology. | Econom. Botany. | French. | Drill. | Lab. Zoölogy. |
| SENIOR. | 1 | | History. | Logic. | Spher. Trigon Astronomy. | Drill. | Geology. |
| | 2 | Entomology. | History. | Metaphysics. | Thesis. | Drill. | Thesis. |
| | 3 | Entomology. | Polit. Economy. | Mor. Philosophy. | Astronomy. | Drill. | Thesis. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, PHYSICS.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. | Physics. | Physiology. | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German. | Gen. Botany. | Chemistry. | Drill. | Physics. |
| | 3 | Analyt. Geom. | German. | Calculus. | Chemistry. | Drill. | Physics. |
| JUNIOR. | 1 | Electricity. Magnetism. | English. | Calculus. | French | Drill | Chemistry. |
| | 2 | Heat. | English. | Calculus. | French. | Drill. | Physics. |
| | 3 | Light. | English. | | French. | Drill. | Physics. |
| SENIOR. | 1 | Zoölogy. | History. | Logic. | Spher. Trigon. Astronomy. | Drill. | Physics. |
| | 2 | | History. | Metaphysics. | Geology. | Drill. | Thesis. |
| | 3 | | Polit. Economy. | Mor. Philosophy. | Astronomy. | Drill. | Thesis. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ENTOMOLOGY.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Elem. Entomology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Elem. Entomology. | Drill. | Entr Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. | Physics. | Physiology | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German. | Gen. Botany. | Chemistry. | Drill. | Lab. Physics. |
| | 2 | Analyt. Geom. | German. | Syst. Botany. | Chemistry. | Drill. | |
| JUNIOR. | 1 | Zoölogy. | Adv. Entomology. | Adv. Entomology. | French. | Drill. | Lab. Chemistry. |
| | 2 | Palæontology. | Adv. Entomology. | Adv. Entomology. | French | Drill. | Lab. Chemistry. |
| | 3 | Mineralogy. | Syst. Entomology. | Syst. Entomology. | French. | Drill. | Lab. Chemistry. |
| SENIOR. | 1 | Econ. Entomology. | History. | Logic. | Spher. Trigon. Astronomy. | Drill. | Geology. |
| | 2 | Econ. Entomology. | History. | Metaphysics. | Thesis. | Drill. | Thesis. |
| | 3 | Econ. Entomology. | Polit Economy. | Mor. Philosophy. | Astronomy. | Drill. | Thesis. Photog. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ANAT. AND PHYSIOL.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR | THIRD HOUR. | FOURTH HOUR | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry | German. | | Drill. | Drawing. |
| | 2 | English | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 2 | English. | Algebra | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German | Physics. | Physiology. | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German. | Gen. Botany. | Chemistry. | Drill. | Lab. Physics. |
| | 3 | Analyt. Geom. | German. | Syst. Botany. | Chemistry. | Drill. | Lab. Physics. |
| JUNIOR. | 1 | Zoölogy. | Osteology Comp | Osteology Human | French. | Drill. | Lab. Chemistry. |
| | 2 | Organic Chemistry | | Osteology. Human. | French. | Drill. | Lab. Zoölogy. |
| | 3 | Physical Chemistry | | Osteology. Human. | French. | Drill. | Physiology. Chemistry. |
| SENIOR. | 1 | French. | History. | Logic. | Geology. | Drill. | Lab. Physiolog. |
| | 2 | Entomology. | History. | Metaphysics. | Physiology. Thesis. | Drill. | Thesis. |
| | 3 | Entomology. | Polit. Econ. | Moral Philos. | Physiology. Thesis. | Drill. | Embryology. |

### II. COURSES FOR THE DEGREE OR A. B.

| | |
|---|---|
| History, Political Economy, and Metaphyics,....... | President Patterson. |
| Botany ,........................ .................................. | Professor Mathews. |
| The English Language and Literature, ................ | Professor Mackenzie. |
| Military Science, ........................ .......................... | Lieutenant Burtt. |
| Chemistry, ........................ ....... ...................... | Professor Kastle. |
| Mathematics and Astronomy, ................................ | Professor White |
| The French and German Languages,.................... | Professor Wernicke |
| The Greek and Latin Languages, .............. ........ | Professor Neville, Dean. |
| | Ass't Professor Jones. |
| Physiology,.......................................................... | Professor Pryor. |
| Geology and Zoölogy,.............................................. | Professor Miller. |
| Physics, ............. ............................................ | Professor Pence. |

For the Degree of A. M., Greek, Latin, English, History, Mental Science, French, German, or Gothic may be selected as major study; and minors will be assigned from Greek, Latin, English, Mathematics, History, Metaphysics, Political Economy, French and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF A. B. (MAJOR GREEK AND LATIN.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | Greek. German. | Latin. | Drill. | |
| | 2 | English. | Solid Geometry. | Greek. German. | Latin. | Drill. | |
| | 3 | English. | Algebra. | Greek. German. | Latin. | Drill. | |
| SOPHOMORE. | 1 | Latin. | Greek. German | Physiology. | English. | Drill. | |
| | 2 | Latin. | Greek. German. | Physics. | Chemistry. | Drill. | |
| | 3 | Latin. | Greek. German. | Physics. | Chemistry | Drill. | |
| JUNIOR. | 1 | Analyt. Geom. | English. | Greek. Latin. | French. | Drill. | |
| | 2 | Analyt. Geom. | English. | Greek. Latin. | French. | Drill. | |
| | 3 | Analyt. Geom. | English. | Greek. Latin. | French. | Drill. | Botany. |
| SENIOR. | 1 | Latin. French. | History. | Logic. | Geology. | Drill. | Geology. |
| | 2 | Latin. French. | History. | Metaphysics. | Spher. Trigon. Astronomy. | Drill. | Zoölogy. |
| | 3 | Latin. French. | Polit. Economy. | Mor. Philos. | Astronomy. | Drill. | |

## SCHEDULE OF STUDIES FOR THE DEGREE OF A. B. (MAJOR ENGLISH.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | *English.* | Trigonometry. | Greek. German. | Latin. | Drill. | |
| | 2 | *English.* | Solid Geom. | Greek. German. | Latin. | Drill. | |
| | 3 | *English.* | Algebra. | Greek. German. | Latin. | Drill. | |
| SOPHOMORE. | 1 | Latin. | Greek. German. | Physiology. | *English.* | Drill. | |
| | 2 | Latin. | Greek. German. | Physics. | Chemistry. | Drill. | |
| | 3 | Latin. | Greek. German. | Physics | Chemistry. | Drill. | Botany. |
| JUNIOR. | 1 | Analyt. Geom. | *English.* | Greek. Latin. | French. | Drill. | *Anglo-Saxon.* |
| | 2 | Analyt. Geom. | *English.* | Greek. Latin. | French. | Drill. | Zoölogy. |
| | 3 | Analyt. Geom. | *English.* | Greek. Latin. | French. | Drill. | *Anglo-Saxon.* |
| SENIOR. | 1 | Sanskrit or Hebrew. French. | History. | Logic. | Geology. | Drill. | *Anglo-Saxon.* |
| | 2 | Sanskrit or Hebrew. French. | History. | Metaphysics. | *Comp. Philol.* | Drill. | *Anglo-Saxon* |
| | 3 | Sanskrit or Hebrew. French. | Polit. Econ. | Moral Philos. | *Comp. Philol.* | Drill. | *Thesis.* |

### III. COURSES FOR THE DEGREE OF B. PED.

| | |
|---|---|
| History, Political Economy, and Metaphysics,..... | President Patterson. |
| Botany and Horticulture,.......... .......................... | Professor Mathews. |
| The English Language and Literature,.. .............. | Professor Mackenzie. |
| Military Science, ................................. ........... | Lieutenant Burtt. |
| Chemistry, ... ................................. ........ .... | Professor Kastle. |
| Mathematics and Astronomy,.............................. | Professor White. |
| Latin Language,. ... ..... ......................... ......... | Professor Neville. |
| German, .................................................. | Professor Wernicke. |
| Pedagogy,.................................................. | Professor Roark, Dean. Ass't Professor White |
| Anatomy and Physiology, . ........... ..... .............. | Professor Pryor. |
| Geology and Zoölogy, ...... ................ ................ | Professor Miller. |
| Physics, ........ ......................... ........................ | Professor Pence. |

In case the student is prepared, on entering, to read Cicero, he must take German, First Year, third hour, and Second Year, second hour. Otherwise he must take Latin the First Year, and English the Second Year.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. PED.

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German or Latin. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German or Latin. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German or Latin. | Physiology. | Drill. | Gen. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. or English. | Physics. | English. | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German or English. | Gen. Botany. | Chemistry. | Drill. | Physics. |
| | 3 | Analyt. Geom. | German or English. | Gen. Pedagogy. | Chemistry. | Drill. | Physics. |
| JUNIOR. | 1 | Zoölogy. | Educat. Psychol. | Logic. | Cicero. | Drill. | Chemistry. |
| | 2 | Palæontology. | City School Problems. | Adv. Psychology. | Livy. | Drill. | |
| | 3 | Mineralogy. | Educat. Economy. | | Livy. | Drill. | Professional Reading. |
| SENIOR. | 1 | Virgil. | History. | Educational Method. | Astronomy. | Drill. | Gen. Geol. |
| | 2 | Virgil. | History. | Metaphysics. | Hist. Educat. | Drill. | Obs. Work in Pedagogy. |
| | 3 | Cicero. Tereuce. | Polit. Economy | Mor. Philosophy. | Astronomy. | Drill. | Thesis. |

### IV. COURSES FOR THE DEGREE OF B. M. E.

| | |
|---|---|
| History and Political Economy, | President Patterson. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Lieutenant Burtt. |
| Chemistry , | Professor Kastle. |
| Mathematics, | Professor White. |
| | Ass't Professor Johnson. |
| Mechanical Engineering, | Professor Anderson, Dean |
| Machine Design, | Professor Faig. |
| Electrial Engineering, | Ass't Professor Wilson. |
| Physics, | Professor Pence, |
| Shopwork and Drawing, | Instructor Nollau. |
| Experimental Engineering, | Professor Anderson. |
| Surveying, Graphic Statics, and Hydraulics, | Professor Brooks. |

For the Degree of M. E., Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, or Machine Designing may be selected as major study; and minor studies will be assigned from Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, Machine Designing, Mechanical Laboratory Work, Mathematics, Physics, Chemistry, Mental Science, Political Science, English, and Modern Languages.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. M. E.

| YEAR | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. | SATURDAY. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | English. | Trigonometry. | Model and Object Drawing | Woodwork, Machine Design | Drill. | ShopWoodwork Bench, Lathe. | ShopWoodwork Bench, Lathe. |
| | English | Solid Geomotry | Physics. | Pattern-Making Foundry Draw | Drill. | Pattern-Making Foundry. | Pattern-Making |
| | English. | Algebra. | Physics. | Mech. Drawing. | Drill. | Pattern-Making Foundry. | Pattern-Making |
| SOPHOMORE. | Analyt. Geom. | Chemistry. | Elem. Design. | Physical Lab. | Drill. | Iron and Steel Forging. | Iron and Steel Forging |
| | Analyt. Geom. | Surveying. | Metallurgy. | Descr Geom. | Drill. | Machine Work | Descrip. Geom. Drawing. |
| | Analyt. Geom. | Elem Design. | Calculus. | Descr. Geom. | Drill. | Machine Work Surveying. | Descrip. Geom. Drawing. |
| JUNIOR. | Elementary Electricity. | Mechanics of Materials. | Calculus. | Kinematics Theory of Machine Design | Drill. | Kinemat. Draw. Machine Design | Kinemat. Draw. |
| | Electrical Design. | Analytic Mechanics. | Calculus. | Dynamo Elect. Machinery. | Drill. | Chemical Laboratory | Machine Design |
| | Dynamo and Motor Design. | Graph. Statics. | Analytic Mechanics. | Dyn. Elec. Mach, Theory of Machine Design | Drill. | Machine Design Electric Lab. | Machine Design Electric Lab. |
| SENIOR. | Thermodynam. Hydraulics. | History. | Altern Currents. Dyna. Mot. Des. | Valve Gears. Steam Boilers | Library. | Valve Design. Electrical Lab. | Steam Lab. |
| | Altern. Currents Power Plant. | History. | Steam Engine. Design. | Dynamometers. Pumps. | Library. | Valve Design. Dyna. Mot. Des. | Steam Lab. |
| | Thesis. | Polit. Econ. | Photography. | Thesis. | Library. | Thesis. | Thesis. |

### V. COURSES FOR THE DEGREE OF B. C. E.

| | |
|---|---|
| History and Political Economy | President Patterson. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Lieutenant Burtt. |
| Mathematics and Astronomy, | Professor White. |
| Chemistry | Professor Kastle. |
| Civil Engineering, | Professor Brooks, Dean. |
| Geology, | Professor Miller. |
| Physics, | Professor Pence. |
| Analytical Mechanics, | Professor Faig. |
| Descriptive Geometry, | Ass't Professor Johnson. |
| Mechanical Drawing, | Instructor Freeman. |

For the Degree of C. E., Railways, Structures, Water Power, Municipal or Mining Engineering, Sanitation; Topograghical, Geodetic, or Architectural Engineering may be selected as major study; and minors will be assigned from Mathematics, Astronomy, Mechanical Engineering, Geology, Chemistry, Physics, Political Economy, English, French, and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. C. E.

| YEAR | FIRST HOUR. | SECOND HOUR | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. | SATURDAY. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | English. | Trigonometry. | Drawing. | Mech Drawing. | Drill. | Drawing. | Drawing. |
| | English. | Solid Geom. | Physics. | Mech. Drawing. | Drill | Drawing. | Drawing. |
| | English. | Algebra. | Physics. | Mech. Drawing. | Drill. | Drawing. | Drawing |
| SOPHOMORE. | Analyt Geom. | Chemistry. | Drawing. | Phys. Laborat. | Drill. | Drawing. | Drawing. |
| | Analyt. Geom. | Surveying. | Metallurgy. | Descr. Geom. | Drill. | Drawing. | Descr. Geom. |
| | Analyt. Geom. | Elem. Design. | Calculas. | Descr. Geom. | Drill. | Surveying, Mapping. | Surveying, Mapping. |
| JUNIOR. | Design. | Strength of Materials. | Calculus. | Elec. Dyn. Mach Roofs, Bridges. | Drill. | Topog. Survey. Mapping. | Topog. Mapping. |
| | Roofs Bridges. | Analytical Mechanics. | Calculus. | Stone Cutting. | Drill. | Chem Lab. | Drawing. |
| | Roofs Bridges. | Graph. Statics. | Anal. Mechan. | R. R. Survey. | Drill. | R. R. Survey. | R. R. Survey. |
| SENIOR. | Hydraulics. Goedesy. | History. | Bridge Design. | Astronomy. Construction. Geod. Survey. | Drill. | Geod. Survey. Cement Tests. | Surveying. |
| | Roofs, Bridges, Power Plants. | History. | Sanitary Engineering. | Econom. Geol. | Drill. | Chem. Lab. | Design. |
| | Drawing. | Polit. Econ. | Design. | Astronomy. | Drill. | Thesis. | Thesis. |

### VI. COURSES FOR THE DEGREE OF B. AGR.

History, Political Econemy, and Metaphysics,......President Patterson.
Agriculture, Horticulture, and Botany,.................Professor Mathews, Dean
The English Language and Literature,.................Professor Mackenzie.
Military Science,.. .. ...........................................Lieutenant Burtt.
Chemistry, ............................................... Professor Kastle.
Mathematics and Astronomy,................................ Professor White.
The French and German Languages, .. ..................Professor Wernicke.
Entomology, ..................................................Professor Garman.
Anatomy and Physiology, ..................................Professor Pryor.
Geology and Zoölogy,...................................... ..Professor Miller.
Physics, ..... ................................................Professor Pence.
Drawing, ......................................................Professor Muncy.

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For the Degree of M. Agr., Agricultural Chemistry, Horticulture, Entomology, or Economic Botany may be selected as major study; and minors will be assigned from Agricultural Chemistry, Horticulture, Entomology, Zoölogy, Geology, and Botany.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. AGR.

| Year | Team | First Hour. | Second Hour. | Third Hour. | Fourth Hour | Fifth Hour. | Afternoon. |
|---|---|---|---|---|---|---|---|
| Freshman. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra | German. | Physiology. | Drill. | Entr. Botany. |
| Sophomore. | 1 | Zoölogy. | German. | Physics. | English. | Drill. | Gen. Botany. |
| | 2 | | German. | Gen. Botany. | Chemistry. | Drill. | Zoölogy. |
| | 3 | Mineralogy. | German. | Syst. Botany. | Chemistry | Drill. | Zoölogy. |
| Junior. | 1 | | Plant Histology. | Econom. Botany. | French. | Drill | Lab. Chem. |
| | 2 | Entomology. | Agriculture. Horticulture. | Fertiliz. Dairy. | French. | Drill | Horticul. Dairy. |
| | 3 | Hortic. Entomol. | Plant Physiology | Econom. Botany. | French. | Drill. | |
| Senior. | 1 | | History. | Logic. | Thesis. | Drill. | Agricul. Chem. |
| | 2 | | History. | Metaphysics. | Econ. Geol | Drill. | Thesis. |
| | 3 | | Polit. Econ. | Moral Philos. | Astronomy. | Drill. | Thesis. |

## SCHEDULE OF STUDIES FOR THE TWO YEARS' COURSE IN AGRICULTURE.

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FIRST YEAR. | 1 | English. | Trigonometry. | | Physiology. | Drill. | Gen. Botany. |
| | 2 | English. | Solid Geom | Gen. Botany. | Chemistry. | Drill. | Zoölogy. |
| | 3 | English. | | System. Botany. | Chemistry. | Drill. | Zoölogy. |
| SECOND YEAR. | 1 | Zoology. | Plant Histology. | Econom. Botany. | English. | Drill. | Agricultural Chemistry |
| | 2 | Entomology. | Agriculture Horticulture. | Fertilizers Dairy. | Economic Geology. | Drill. | Horticulture. Field Work Dairy. |
| | 3 | Horticulture. Entomology. | Plant Physiology. | Econom Botany | Astronomy. | Drill. | |

### VII. COURSES FOR THE DEGREE OF B. E. M.

| | |
|---|---|
| History and Political Economy | President Patterson. |
| Mining Engineering, Ore Dressing | Professor Norwood, Dean |
| The English Language and Literature | Professor Mackenzie. |
| Military Science | Lieutenant Burtt. |
| Mathematics | Professor White. |
| Surveying and Hydraulics | Professor Brooks. |
| Mechanical Engineering | Professor Anderson. |
| Geology and Mineralogy | Professor Miller. |
| Chemistry and Metallurgy | Professor Kastle. |
| Physics | Professor Pence. |
| Analytical Mechanics | Professor Faig. |
| Electrical Engineering | Ass't Professor Wilson. |
| Descriptive Geometry | Ass't Professor Johnson. |
| Shopwork and Drawing | Instructor Nollau. |
| | Assistant Freeman. |

For the degree of E. M., Metallurgy, Ore Dressing, Milling, Coal Mining, Mine Engineering, Mine Plant, Mine Development, or Deep Mining, may be selected as major study; and minor studies may be assigned from Civil Engineering, Mechanical Engineering, Electrical Engineering, Geology, Chemistry, Physics, Mathematics, Political Economy, English, French and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. E. M.

| YEAR | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. | SATURDAY. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | English. | Plane Trigon. | Drawing. | Woodwork, Mech. Drawing | Drill. | Shop Woodwork Bench, Lathe. | Shop Woodwork Bench, Lathe. |
| | English. | Solid Geometry | Physics. | Mech. Drawing | Drill. | Free-hand Drawing. | Drawing. |
| | English. | Algebra. | Physics. | Mech. Drawing. | Drill. | Drawing. | Drawing. |
| SOPHOMORE. | Analyt. Geom. | Chemistry. | Phys. Laboratory. | Geology. | Drill. | Mech. Drawing. | Iron and Steel Forging. |
| | Analyt. Geom. | Surveying. | Metallurgy. | Descr Geom. | Drill. | Phys. Laboratory. | Descrip. Geom. Drawing. |
| | Analyt. Geom. | Elem Design. | Calculus. | Descr. Geom. | Drill. | Surveying. Mapping. | Surveying. Mapping. |
| JUNIOR. | Electricity. Magnetism. | Mechanics of Materials. | Calculus. | Dyn. Elec. Mach Mining 1, 2. | Drill. | Chemistry of Metals. | Surveying. Mapping. |
| | Mining 3. | Analytic Mechanics. | Calculus. | Dyn. Electric. Machinery. | Drill. | Metallurgy. Assaying. | Assaying. |
| | Mineralogy. | Mining 3. Mining 6. | Analytic Mechanics. | Electrical Appliances | Drill. | Quant. Analysis. | R. R. Survey. |
| SENIOR. | Hydraulics. Steam Engine. Compressed Air. | History. | Mining 7. | Steam Boilers | Drill. | Mining 4. Mining 5. | Mine Survey 6. |
| | Altern. Currents Power Plants. | History. | Mining 7. Mining 8. | Econ. Geology. | Drill. | Mine Maps 6. | Mine Plant Design. |
| | Mine Plant Design. | Polit. Econ. | Mining 8. Mining 9. Mining 10. | Design. Thesis. | Drill. | Design. Thesis. | Thesis. |

## THE NORMAL SCHOOL.

RURIC NEVEL ROARK,
PRINCIPAL.

MILFORD WHITE,

JOSEPH WILLIAM PRYOR,

THEODORE TOLMAN JONES,

JAMES FRANKLIN SANDEFUR,

J. HARRY CLO,

ASSISTANTS.

## THE NORMAL SCHOOL.

The Normal School prepares teachers for service in the rural schools and elementary graded schools of the State. It comprises three courses, corresponding to the three classes of certificates named in the School Law, viz.: State Diploma, State Certificate, and County Certificate.

*The State Diploma Course* is made up of all the common school subjects and, in addition, Higher Arithmetic, Algebra, Plane Geometry, Elementary Physics, Elementary Latin, and Psychology. The State Diploma is a life certificate.

*The State Certificate Course* comprises, besides the common school branches, the advanced subjects of Higher Arithmetic, Algebra, English and American Literature, and Psychology. The State Certificate is valid for eight years, in all parts of the State, and is renewable for another eight years.

*The County Certificate Course* is made up of the common school subjects in which applicants for a county certificate must be examined.

*Other branches* will, it is now expected, be provided for in 1905, and thereafter. These branches will be Penmanship, Freehand Drawing, Vocal Music, and Nature Study. Of these, only Penmanship is required in most schools of the State; but it will not be many years until the others also will be required. In fact, Drawing, Vocal Music, and Elementary Science are now demanded in not a few graded schools. The Normal School of the State College aims not only to prepare teachers to meet the bare requirements of the law, but to fit them also both to create and to satisfy a popular demand for the teaching of all the subjects of the best modern elementary curriculum.

Capable students in either of the lower courses, may, with the consent of the Dean, take advanced branches in the State Diploma Courses.

*General Pedagogy—Theory and Practice*—constitutes a special feature of each course throughout each term of the year. This class is a purely professional one, in which all questions pertaining to the organization, management, and teaching of elementary schools are fully discussed. Participation in the work of this class is vital to the best success of the teacher.

*Forensics*, a thorough training in the practice of public speaking is a special advantage offered by the Normal School. The whole school is placed in sections sufficiently small to enable each student to get the benefit that comes from frequent practice in forensics. The work is in charge of the Dean.

*City examinations* are provided for in the several courses above named. Many city school boards in the State accept the State Certificate. In other cases, a course preparatory to a special examination can be made up out of the regular courses described in the preceding paragraphs.

*County Superintendents and Examiners.* Although the Normal School has not heretofore had proper facilities for especially fitting County Superintendents and County Examiners for their distinctive work, yet fifteen per cent. of the present County Superintendents in the State have been prepared here for their examination for eligibility, and for the more successful discharge of their official duties. Very many County Examiners have also had their preparation in the Normal School.

It is intended to offer in the session of 1904-05, and thereafter, special courses for those who desire to prepare for service as County Superintendents. These courses will comprise, in addition to the required academic studies, special instruction in Psychology, General Pedagogy, and in School Law.

*Text Books:* In the Professional Course the text-books are those used in the same branches in the other four years' courses of the College. In the work in Pedagogy the books used are Roark's Psychology in Education, Roark's Method in Educatiou, White's and Baldwin's School Management, and Seeley's History of Education. In the County Certificate Course the books used are Dubb's Arithmetic, Peterman's Civil Government, Chittenden's Element's of English Composition, Natural Advanced Geography, Holbrook's Complete Grammar, Montgomery's History of the United States, Kinkead's History of Kentucky, Martin's Human Body (smaller edition), Roberts' Rules of Order, and Roark's General Outline of Pedagogy. In the State Diploma and State Certificate Courses, besides these books, Wentworth's Higher Algebra, Johnson's History of English and American Literature, and Blaisdell's First Steps with English and American Authors also are used.

## APPOINTMENTS.

Each legislative district of the State is entitled to send to the Normal School every year four properly appointed students, of either sex. Appointments are made by the County Superintendents (see page 129, Section 14, 15, and 16, School Law of 1900) between the first day of July and the thirty-first day of December. Appointments should be certified to the President of the State College as soon as they are made. Appointees secure all the advantages indicated on page —. They do *not* receive mileage unless they remain in school the *full collegiate year*.

Appointments to the Normal School are good for one year. Those who are ready to enter the Freshman Class of the full four years' Professional Course should see that their appointments are made for the *College* and not for the Normal School. Appointments made for that course as a college course are good for four years.

## CALENDAR.

The First Term opens September 14, 1905.
The Second Term opens January 2, 1906.
The Third Term opens March 12, 1906.

Students should enter as early in the term as possible.

## SCHEDULE FOR THE STATE DIPLOMA.

| Term | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. |
|---|---|---|---|---|---|
| 1 | Latin. | Pedagogy. | Physics. | Algebra. | Drill. |
| 2 | Literature. | Psychology. | Higher Arithmetic. | Plane Geometry. | Drill. |
| 3 | Literature. | Algebra. | Higher Arithmetic. | Plane Geometry. | Drill. |

## SCHEDULE FOR THE STATE CERTIFICATE.

| Term | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. |
|---|---|---|---|---|---|
| 1 | Literature. | Pedagogy. | Higher Arithmetic. | Algebra. | Drill. |
| 2 | Literature. | Psychology. | Higher Arithmetic. | Algebra. | Drill. |

## SCHEDULE FOR THE COUNTY CERTIFICATE.

| Term | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. |
|---|---|---|---|---|---|
| 1 | Grammar. | Arithmetic. | U. S. History. Physiology. | Geography. | Drill. |
| 2 | Grammar. Civics. | Arithmetic. Pedagogy. | Geography. Physiology. | Composition. | Drill. |
| 3 | Grammar. Composition | Arithmetic. Geography. | Civics. Physiology. Pedagogy. | U. S. History. | Drill. |

## THE ACADEMY.

WALTER KENNEDY PATTERSON,
PRINCIPAL.
JOHN LEWIS LOGAN,
JOSEPH MORTON DAVIS,
VICTOR EMANUEL MUNCY,
ASSISTANTS.

## COURSES OF STUDY.

### I. SCIENTIFIC.

FIRST YEAR—Arithmetic, Wells' Academic; Algebra, Wells' Essentials, to Chapter XVII ; Political and Descriptive Geography, Butler's Complete ; History of the United States, Eggleston ; English Grammar, Patterson's Advanced.

SECOND YEAR—Algebra, Fisher and Schwatt's Higher, to Chapter XXV ; Plane Geometry, Beman and Smith ; Physical Geography, Tarr ; General History, Anderson ; Rhetoric, Genung ; Synonyms, Graham.

### II. CLASSICAL.

FIRST YEAR—Latin Grammar, Smiley and Storke ; Viri Romæ or Scudder's Gradatim or D'Ooge's Easy Latin ; White's Beginner's Greek Book ; Arithmetic, Wells' Academic ; Algebra, Fisher and Schwatt's Higher, to Chapter XII ; English Grammar, Patterson's Advanced.

SECOND YEAR—Latin Grammar continued ; Nepos, Cæsar ; Daniell's New Latin Composition ; Greek Grammar continued ; Jacobs' Greek Reader ; Xenophon's Anabasis ; Algebra, Fisher and Schwatt's Higher, to Chapter XXV ; Plane Geometry, Beman and Smith ; Rhetoric, Genung ; Synonyms, Graham.

FIRST YEAR—Coleridge's *Ancient Mariner*, in class, and Scott's *Ivanhoe*, parallel.

SECOND YEAR—Shakespeare's *Merchant of Venice*, Macaulay's Essay on *Addison*, Addison's *Sir Roger de Coverley Papers*, Tennyson's *Princess*, Milton's *Lycidas*, in class ; George Eliot's *Silas Marner* and Goldsmith's *Vicar of Wakefield*, parallel.

## SCHEDULE OF STUDIES IN THE ACADEMY.

| Year | First Hour. | Second Hour. | Third Hour | Fourth Hour. | Fifth Hour. | Afternoon. |
|---|---|---|---|---|---|---|
| **SCIENTIFIC.** | | | | | | |
| First Year. | English Grammar | Geography. | Arithmetic. | Algebra. | Drill Gymnastics. | |
| | English Grammar. | History. | Arithmetic. | Algebra. | Drill Gymnastics. | |
| Second Year | Rhetoric. | Algebra. | Physical Geography. | Geometry. | Drill Gymnastics. | |
| | Rhetoric. Synonyms. | Algebra. | History. | Geometry. | Drill Gymnastics. | |
| **CLASSICAL.** | | | | | | |
| First Year. | English Grammar. | Latin Grammar. | Arithmetic. | Algebra. | Drill Gymnastics. | GreekGrammar |
| | English Grammar. | Latin Grammar. | Arithmetic. | Algebra. | Drill Gymnastics. | GreekGrammar |
| Second Year | Rhetoric. | Algebra. | Viri Romæ, Nepos. | Geometry. | Drill Gymnastics. | Greek Reader. |
| | Rhetoric, Synonyms. | Algebra. | Cæsar, Latin Composition. | Geometry. | Drill Gymnastics. | Anabasis. |

The Academy is under the immediate direction and management of the Principal and four Assistants.

The students are subject to the same rules and regulations as the students of the College. Their attendance at the College is required only during the hours of recitation and other prescribed College exercises, the preparation of their lessons being made elsewhere.

The courses of study in the Academy are provided for those who enter directly from the common schools, and are intended to supply the necessary training intermediate between the Freshman class of the College and the course of study prescribed by the State Board of Education for the common schools.

Every applicant, to be admitted to the Academy, is required to pass a satisfactory examination in Spelling, Reading, Writing, Geography, History of the United States, English Grammar, and Arithmetic.

County appointees must present Certificates of Appointment, made on actual examination held in pursuance of *law* by a County Board of Examiners, duly appointed for that purpose by the County Superintendent.

Applicants from the public schools of Lexington must present certificates from the School Board setting forth that they have completed the eighth-grade studies.

Other applicants must present certificates from their County Superintendent, or from the Principal of their High School, setting forth that they have completed the common school course prescribed by the State Board of Education.

Those who enter at any other time than the beginning of the year will be required to pass a satisfactory examination on the work already gone over by the classes they propose to enter.

Students matriculating in the Academy will be required to pursue one of its prescribed courses of study, and will not be permitted to take any work outside of this course except on the recommendation of the Principal.

## ENTRANCE EXAMINATIONS.

These will be held as follows:

Tuesday, September 12th, 1905, on English Grammar, Rhetoric, and Greek Grammar; Wednesday, September 13th, on Political and Descriptive Geography, U. S. History, Latin Grammar, and Second Year Algebra; Thursday, September 14th, on Arithmetic, Physical Geography, General History, and Second Year Latin; Friday, September 15th, on First Year Latin, Algebra, Geometry, and Second Year Greek.

Examinations to begin at 8 a. m. and close at 12 m.

For the benefit of those, other than county appointees, who desire to know the character of the examination which applicants for admission will be required to pass, the following examination papers are submitted as a sample. It is not to be understood that these are the questions on which applicants will be examined, but that they indicate the minimum attainments necessary to enter the Academy of the College. Those who expect to enter more advanced classes will be required to pass an examination on all that the class which they propose to enter has passed over.

### I. ARITHMETIC.

Find the greatest common divisor and the least common multiple of 899 and 961.

$$\text{Simplify } 2\tfrac{1}{4}\times\frac{10\tfrac{3}{4}-4\tfrac{11}{12}}{6\tfrac{3}{16}\times7\tfrac{2}{3}}\div\frac{3\tfrac{5}{11}}{1\tfrac{2}{5}+9\tfrac{1}{11}}$$

Find the number of bushels that will fill a bin 8.5 feet long, 4.5 feet wide, 3.5 feet deep.

The longitude of Rome is 12° 27′ 14″ east; the longitude of Chicago is 87° 35′ west; find the difference in time between the two places.

What will be the cost of plastering the walls and ceiling of a room 24 feet 4 inches long, 20 feet wide and 12 feet 6 inches high, at 27 cents per square yard, if 20 square yards be deducted for doors, windows, and base boards?

If a train at the rate of $\frac{5}{13}$ of a mile per minute takes $3\frac{1}{4}$ hours to reach a station, how long will it take at the rate of $\frac{7}{15}$ of a mile per minute?

A and B can do a piece of work in $2\frac{1}{2}$ days, and A and C in $3\frac{1}{3}$ days, B and C in $4\frac{1}{4}$ days. Required the time in which all three working together can do the work, and in which each can do the work alone.

A farmer sowed 5 bushels, 1 peck, 1 quart of seed, and harvested from it 103 bushels, 3 pecks, 5 quarts. How much did he raise from a bushel of seed?

Reduce 9 square chains, 11.25 square rods, to the decimal of an acre.

If a bar of iron $3\frac{1}{3}$ feet long, 3 inches wide, $2\frac{3}{4}$ inches thick weighs 93 pounds, what will be the weight of a bar $3\frac{2}{3}$ feet long, 4 inches wide, and $2\frac{1}{2}$ inches thick?

### II. ENGLISH GRAMMAR.

Name, define, and give examples of all the parts of speech.

Define a phrase, a clause, and give examples of each.

What are the only verbs that can be in the passive voice? Why?

Write a complex sentence containing a noun clause; one containing an adjective clause; one containing an adverbial clause.

Analyze the following sentence, and parse all the words in full:

"The soldiers of the Tenth Legion, wearied by their long march and exhausted from want of food, were unable to resist the onset of the enemy."

### III. GEOGRAPHY.

What are the circles of the earth?

What are the meridians?

Define latitude and longitude.

What two meridians bound the hemispheres?

Define the two principal forms of government.

Bound North America and describe its political divisions.

Why is the climate of Western Europe different from that of America in the same latitudes?

Describe the mountains, principal rivers, and lakes of Asia.

Describe the natural routes of commerce.

### IV. HISTORY.

What section of the United States was first explored by the Spanish? French? English?

Give a concise description of the settlement of Plymouth, Jamestown, New York City, and name their distinctive characteristics.

Define Charter, Proprietary, and Royal government as applied to the colonies, and name the colonies that were under each of these forms of government.

Name the three principal causes of the Revolutionary War.

What was the main cause of the War of 1812?

What caused the Mexican War?

Give the leading political differences between the North and the South at the opening of the Civil War.

Name the three departments of the Government under the Constitution, and define the duties of each.

# ASSOCIATIONS.

### THE UNION LITERARY SOCIETY.

This, the oldest of the literary associations connected with the State College, was formed in 1872 by the consolidation of the Yost Club and the Ashland Institute, and operates under a charter from the Legislature. It occupies a commodious and well-furnished hall in the Gymnasium and is supplied with a library due in part to an appropriation from the State. Besides the weekly meetings devoted to declamations, essays, and debates, the Society holds on the 22d of February an annual contest in oratory, and awards to the successful competitor a gold medal provided by the alumni.

### THE PATTERSON LITERARY SOCIETY.

This society, formed in 1887, and at the suggestion of Gov. Knott named in honor of the President of the College, was chartered in 1888. It is provided with a handsome room and a good library. The annual oratorical contest is held on the 26th of March, the birthday of the President, who presents the first prize, a gold medal. The second, also a gold medal, is the gift of Mr. George W. Crum, of Louisville.

### THE PHILOSOPHIAN AND NEVILLE SOCIETIES.

These Societies, instituted, the former in 1882, the latter in 1905, by young women of the College, for literary improvement and social pleasure, offer, besides the usual weekly meetings, public entertainments consisting of declamations, essays, criticisms, and addresses.

### THE ENGINEERING SOCIETY.

This body, composed of matriculates in either course of engineering, meets on the third Friday of each month. The exercises consist of a paper read by a member on some pertinent topic, followed by a general discussion. During the year the Society is occasionally favored with lectures by experienced engineers not connected with the College.

### ATHLETICS.

Opportunity for physical exercise and legitimate outdoor sport is afforded by the spacious Athletic Field and Parade Ground. The management of athletics by the students is vested in an Athletic Association formed by the union of the Football, the Baseball, and Track-athletic Societies. The officers of these three sub-organizations constitute the managing board of the Athletic Association. The control of athletics by the Faculty is secured through their Committee on Athletics, acting under a set of regulations adopted by the Faculty and approved by the Trustees.

### CHAUTAUQUA REPRESENTATIVE.

An oratorical contest under the auspices of the Literary Societies, but open to every bona fide student of the College, is held on the last Tuesday afternoon before Commencement to select a representative to speak at the Lexington Chautauqua.

## ALUMNI.

### 1869.

Munson, William Benjamin, B. S.,.......................... Denison, Texas.

### 1870.

Munson, Thomas Volney, B. S., M. S., '83,.............. Denison, Texas.

### 1871.

Harding, Enoch, B. S.,......................................... Fort Worth, Texas.

### 1874.

Carswell, Robert Emmett, B. S., ................ ........... Decatur, Texas.
Dean, John Allen, B. S.,........................................ Owensboro.
Hardin, Thomas Rollins, B. S., M. S., '76,................ Ruston, La.
Smith, Edward Everett, B. S.,................................. Chicago, Ill.

### 1875.

Brown, Edgar Thomas, B. S., M. S., '77........... .. .....Chicago, Ill.

### 1877.

Floete, Franklin, B. S., ......... ................................St. Paul, Minn.
Ward, Ballard Preston, B. S.,..... ...................... .......Speedwell, Va.

### 1878.

Cole, Moses Salvador, B. S., ..................................Rivas, Nicaragua.
*Mackie, Mahlon, B. S.,..........................................Mt. Sterling.

### 1879.

Blakely, Charles Graham, B. S., M. S., '84,..............Topeka, Kansas.
Hays, Napoleon Bonaparte, B. S., M. S., '84,........... Frankfort.
Perry, Caleb Sykes, B. S.,.......................... ...........Indianapolis, Ind.
Wright, Henry Moses, B. S.,........................ .........Alton Park, Tenn.

### 1880.

*Crawford, James, B. S., ........................................Lexie, Tennessee.
Peter, Alfred Meredith, B. S., ...............................Lexington.
Weller, Nicholas John, B. S.,.................... .............Pineville.
Whatley, George Croghan, B. S., ...........................Birmingham, Ala.

### 1881.

Pence, Merry Lewis, B. S., M. S., '85........... ..... ....Lexington.

### 1882.

*Berry, George G., B. S.,.........................................Lexington.
De Roode, Louis Kuinders, A. B., A. M., '86.............New York.
Patterson, John Letcher, A. B , A. M., '86 .................Louisville.
Rogers, Edward Lee, A. B., .....................................Lexington.
Shackleford, John Armstrong, A. B., A. M., '86 ........Tacoma, Wash.
Stoll, John William, A. B., ........................ .. ........Lexington.

*Deceased.

## 1883.

*King, William Elijah, B. S., ....................................Nelson County.
Taylor, James W., A. B.,..........................................New Castle.

## 1884.

Eubanks, Burton Prendergast, B. S.,..........................Dallas, Texas.
Graves, Clarence Scott, B. S., ...... ...........................Lexington.
*Jones, Henry Clay, B. S., .. ...................................Monticello.
Kastle, Joseph Hoeing, B. S.,.....................................Lexington.
Ramsey, Russell Thomas, B. S., ........ ......................Denver, Col.
Riley, Otis Violette, B. S., .......................................Pineville.

## 1885.

De Roode, Rudolph John Julius, B. S., M. S. '87 ......Glens Falls, N. Y.
Gess, George Thomas, B. S.,......................................Lexington.
Gordon, John Crittenden, B. S., ......... ....................Eminence.
Lambuth, William David, A. B.,................................Seattle, Wash.
Scott, James Russell, B. S.,................ ......................Lexington.
*Thornbury, William Garland, B. S.,............ ....... .. Brooklyn, N. Y.

## 1886.

Morgan, Thomas Hunt, B. S., M. S., '88 ...... ...........New York.
*Prewitt, Robert Lee, A. B.,.......................................Memphis, Tenn.
Prewitt, William C., A. B.,.........................................Fort Worth, Texas.

## 1887.

Hifner, Kearney Lee, B. S., .......................................Lexington.
Shackleford, Thomas Wheatley, A. B.,.......................New York.

## 1888.

Bartlett, Frederick Vincent, B. S.,............................Lexington.
Bryan, George Gist, B. S., .........................................Norfolk, Va.
Curtis, Henry Ernest, B. S., M. S., '92 ......................Lexington.
Gunn, Belle Clement, B. S.,.......................................Springfield, Ohio.
Payne, Robert Treat, B. S.,........................................Athens.

## 1889.

Ellershaw, Edward, A. B., A. M., '92 .........................Bristol, Eng.
Frazer, Hugh Miller, B. S., ........................ ...... .....Lexington.
*Patterson, William Andrew, B. S., ...........................Lexington.
Prewitt, Annie Gist, B. S., ........................................Lexington.
Walker, Robert Bernie, B. S., ...................... .........St. Louis, Mo.

## 1890.

Anderson, Richard Thomas, Jr., B. S., ......................Lexington.
Baker, Annie Jane, B. S., ........................................ ......Lexington.
Brock, Charles Robert, B. S.,....................................Denver, Col.
Forston, Keene Richards, B. S.,................................Nicholasville.
Gunn, John Wesley, C. E., ...................................... Lexington.

*Deceased.

Hoeing, Charles, A. B., .................... ................ .... Rochester, N. Y.
Wilson, Margaret Agnes, B. S., ................................ Deadwood, Col.
Yates, James Anderson, B. S., ..................................Ottawa, Kansas.

1891.

Berry, Henry Skillman, B. S., ......................... ....Lexington.
Clardy, U. L., B. S. ........... .......... ......................Goodwill, S. D.
Muncy, Victor Emanuel, B. S., ........... ... .............. Lexington.
Wallis, William Russell, C. E., ................................Friar's Point, Miss.
Warner, B. Callie B. S., .................................... .....Lexington.

1892.

Cox, Arthur Melville, A. B., .............................. .. Cynthiana.
Elkin, Fielding Clay, B. S., ....................................Lexington.
Hunt, Irene Leonora, B. S., ......................... ........Lexington.
Maxey, John Gee, A. B., .........................................Louisville.
Page, William Seabury, C. E., ............. ....................Danville, Wash.
Pottinger, Samuel Lancaster, A. B., ..........................Louisville.
*Reynolds, Frank Craig, C. E., ..................................Lexington.
Scovell, Frank Elmer, C. E., ............. ....................Chamois, Mo.
Shaw, Hiram, Jr., B. S., ..........................................Chicago, Ill.
Shelby, Isaac Prather, C. E., ...................................Lexington.
Southgate, Butler Turpin, A. B., ............................. Lexington.

1893.

Adams, Katherine Innis, A. B....... ..... ............. ......Albuquerque, N. Mex.
Bryan, John Irwin, B. S., B. M. E., '95, ....................Boston, Mass.
Courtney, Edmund, B. Ped ......................................Neave.
Gunn, Henry Martin, B. S., .................................. Mt. Sterling.
Hobdy, William Cott, B. S., ..... ..............................Honolulu, H. I.
Johnson, James Richard, B. M. E., ...........................Lexington.
McFarlin, John William, B. S,, ..............................Franklin.
Railey, Morton Sanders, C. E., ...............................Washington, D. C.
Roberts, Daniel Stillwell, B. Ped., A. M., '01............Louisville.
Smith, Denny Perryman, B. S., ...... .......................Cadiz.
Speyer, Rosa, B. S., M. S., 1900, ...........................Leipzig, Germ.
Ware, Cora E., B. Ped , ........................................Pineville, La.
White, Milford, C. E., M. S., 1900, ... ...... ..............Lexington.
Willis, Benjamin Grant, B. S., .................... ..... .....Lexington.

1894.

Aulick, Edwin Chesterfield, A. B., ..........................Louisville.
Bradshaw, George Dickie, B. Ped., ..........................Chicago, Ill.
Brand, Edward, A. B., A. M., '96 ................ ..........East Lake, Ala.
Curtis, Carlton Coleman, B. S., ................ ............Babylon, N. Y.
Faig, John Theodore, M. E., ....................................Lexington.
Garred, Ulysses Anderson, B. M. E., ........ ...............Anaconda. Mont.
*Griffing, Emma Rosetta, B. S., ...............................Lexington.

*Deceased.

Hays, James Morrison, A. B. .................................Barbourville.
Hughes, Leonard Samuel, B. S., .................................Manila, P. I.
Jones, Mattison Boyd, A. B., .................................Los Angeles, Cal.
Keiser, Benjamin Christopher, B. S., .................................St. Louis, Mo.
Kroesing, Lillie, B. S., .................................Lexington.
Newton, Nathan Alexander, B. M. E., M. E., '99......Oil City, Pa.
Norman, Albert Clift, B. M. E., .................................Savannah, Ga.
Oots, Nina Pearl, B. S., .................................Richmond.
Shelby, Katherine, B. S., .................................Lexington.
Sledd, Dora, B. Ped., .................................Chicago, Ill.
Trigg, William Clay, C. E., .................................Ullin, Ill.
Warner, Hattie Hocker, B. S., .................................Honolulu, H. I.

1895.

Atkins, Mary Lyons, B. S., .................................Lexington.
Barker, Lanis Spurgeon, B. S., ................................. Ocala, Fla.
Bush, Henry Skilman, B. S., .................................Lexington.
Didlake, Mary LeGrand, B. S., M. S., .................................Lexington.
Downing, Joseph Milton, B. M. E, .................................Jackson, Tenn.
Faulkner, John Vick, C. E., .................................Simon, Ind. Ter.
Fitzhugh, Lucy Stuart, A. B., A. M., '96, .................................Lexington.
Foster, Nettie Belle, B. S., .................................Lexington.
King, Elizabeth Whittington, A. B, A. M., '96, .........Ft. Wayne, Ind.
Lewis, Thomas Stone, A. B., .................................Lexington.
McConathy, James Asa, B. S., ................................. Kirklevington.
McCaughliffe, Mary Catherine, B. S., ................................. Lexington.
Murrill, Paul Ingold, B. S., M. S., '96, .................................Woodbury, N. J.
Newman, Roberta, B. S., .................................Lexington.
Reynolds, Nellie Anna, B. S., M. S., '96, .................................Lexington.
Stoll, Richard Charles, A. B., .................................Lexington.
Weaver, Rufus Lee, B. S., .................................New York.
Willmott, John Webb, A. B., .................................Wewoka, I. T.
Woods, John Joseph, A. B., .................................Lexington.

1896.

Alford, Smith Edison, A. B., .................................Ellwood, Pa.
Carnahan, James Williams, A. B., .................................Toledo, O.
Case, Daniel Morris, B. M. E., .................................Georgetown.
Davidson, Harry Adolph, C. E., .................................Louisville.
Dean, Thomas Roland, A. B., .................................S. McAlister, I. T.
Duck, Alice, B. S., .................................Lexington.
Dunlap, John Jennings, A. B., .................................Lancaster.
Kerrick, Felix, A. B., A. M., '01, .................................Louisville.
Lyle, Joseph Irvin, B. M. E., M. E., 1902, .................................New York.
McDowell, Edward Campbell, B. M. E., .................................Jackson, Tenn.
Orman, Henry, B. M. E., .................................Danville.
Trigg, John Henry, B. S., .................................New Columbus.
Woods, John Wesley, A. B., .................................Ashland.

## 1897.

Allen, William Raymond, A. B., ..........................Chetocah, I T.
Anderson, Henry Clay, B. M. E., ..........................Ann Arbor, Mich.
*Atkins, Antoinette Thornton, B. S.,..........................Lexington.
Blessing, George Frederick, B. M. E., M. E., '04........Reno, Nev.
Bullock, Samuel Archibald, B. M. E., M. E., '04.........St. Paul, Minn.
Cassidy, Elizabeth, B. S.,.......................................Lexington.
Clarke, Mary Eva, B. S.,.......................................Lexington.
Collier, William Henry, B. M. E., .......................... Jackson, Tenn.
DeBow, Samuel Carruthers, B. M. E.,.......................Jackson, Tenn.
Downing, George Crutcher, B. Ped., M. S., '98.. .......Frankfort.
Duck, Berkley Wilson, B. M. E., ..........................Indianapolis, Ind.
Duncan, William Adolphus, B. M. E.,...... ..............Nashville, Tenn.
Frazer, Joseph Christie, B. S., ..................................Baltimore, Md.
Geary, John Thomas, B. S., ..................................U. S. Army.
Gordon, Robert Lee, A. B., A. M., '98......................St. Louis, Mo.
Gunn, Clara Brooke, B. S.,......................................Lexington.
*Haley, John Thomas, B. S.,..................................Fayette County.
Hendren, James Harry, B. S., ..................................Speedwell.
Hicks, Arthur Lee, A. B., ......................................Ashland.
Kelly, Thomas Conway, B. M. E., ..........................Milwaukee, Wis.
McHargue, Barbara Susan, B. S., ..........................London.
Morgan, George Matt, B. S.,..................................Cincinnati, Ohio.
Pope, Robert Lee, A. B , ......................................Williamsburg.
Scott, John, A. B., ..............................................San Antonio, Texas.
Searcy, Lulu, B. Ped., ..........................................Lexington.
Simrall, James Orlando Harrison, A. B.,....................Lexington.
Warner, Logan Hocker, B. S.,..................................LaFollette, Tenn.
White, Martha Ripperdan, B. S., M. S., '02..............Lexington.

## 1898.

Brock, George Green, A. B., M. S., '99....................London.
Brock, Lafayette Richardson, B. S.,..........................Lexington.
Cahill, William James David, B. M. E., ....................Lexington.
Campbell, Thomas Luther, A. B.,.............................Memphis, Tenn.
Carpenter, William Thomas, B. M. E.,.......................Vallejo, Cal.
Farley, Frank Preston, A. B.,...............................Flatlick.
Hammock, David William, B. S., ..............................Cane Creek.
Hamilton, Thomas Smith, B. M. E., ..........................Louisville.
Johnson, Jack Stubblefield, A. B.,.............................Muir.
King, Margaret Isadore, A. B., ..............................Lexington.
Loevenhart, Arthur Solomon, B. S., M. S., '99,.........Baltimore, Md.
Loevenhart, Edgar Charles, B. M. E.,.......................Chicago, Ill.
Lucas, Ida West, A. B.,.........................................Ellwood, Pa.
Straus, Charles Louis, B. M. E., M. E., '99............... Lexington.

*Deceased,

Terry, Lila Beatrice, A. B.,..........................................Paris.
Trosper, Henderson Taylor, A. B.,...................... ....London.
Turner, Job Darbin, B. Ped.,..........................................Lexington.
Ward, Paul Sterling, B. M. E., ..................................Cincinnati.
Wilson, Henry Clay, A. B.,............... ....... .............Cynthiana.

1899.

Allen, Leonard Barnes, B. C. E ,.............................. Whitehouse.
Brock, Walter Lucas, A. B.,...........................................London.
Bronaugh, Will Logan, B. M. E., M. E., '03,............Chicago, Ill.
Bullock, Frederick Dabney, B. S., ..............................Lexington.
Bullock, Joseph Hunt, B. S., .....................................Charlottesville, Va.
Butler, Frances Victor, A. B., A. M., '02,...................Nicholasville.
Copland, Alexander Chisholm, B. C. E ,.....................Lexington.
Cox, Jane Bramblett, A. B., .......................................Brewton, Ala.
Davidson, Joseph Ernest, B. C. E.,...... .......... .........Louisville.
Graves, Leila May, B. S.,...............................................Lexington.
Grinstead, Wrenn Jones, A. B.,..................................Adelaide, Australia.
Horton, Minnie Leigh, A. B.,...................................... Camargo.
Hughes, James William, B. M. E.,..............................Quincy, Mont.
Jett, Carter Coleman, B. M. E.,..................................Alleghany, Pa.
Johnston, Philip Preston, B. M. E.,............................Lexington.
Maddocks, Roydon Keith, B. C. E., ...........................Wehrum, Pa.
Marks, Samuel Blackburn, B. S., ..............................Versailles.
Morrow, Joseph, B. Ped.,.......... ............................ ........Rankin.
Roberts, George, B. Ped., M. S.,.......................... .....Berkeley, Cal.
Scherffius, William Henry, B. S., ...............................Lexington.
Scholtz, Theodore Walter, B. M. E., .........................East Pittsburg, Pa.
Simpson, Eugene Irwin, A. B., A. M., B. M. E.,.........Lexington.
Smith, Sidney Allen, A. B., .......................................Louisville.
Vance, Arthur John, B. M. E.,.....................................Cleveland, Ohio.
Warren, Richard Evans, A. B., ...................................Georgetown.
Willmott, Jennie Walker, B. S.,...................................Cleveland, Ohio.
Young, Bradley Woodruff, B. S., ......... ....................Cincinnati, Ohio.

1900.

Allen, Robert McDowell, A. B., ..................................Lexington.
Bowden, Mary Willa, A. B.,......... ................. ......... Paris.
Brock, David Morris, B. C. E., ........... .......................Norfolk, Miss.
Cornett, Charles George, B. Ped.,..............................Pineville, Oregon.
Cox, Lula May, B. S.,....... ..........................................Lexington.
Darling, Lewis Andrew, B. M. E., ............... ...........Palo Alto, Cal.
Frankel, Leon Kaufman, B. M. E., M. E., '02, .........Lexington.
Graham, James Hiram, C. E., .....................................Knoxville, Tenn.
Graves, James Madison, B. M. E., M. E., '01,............Pittsburg, Pa.
Gunn, John Tevis, A. B., A. M., '01,................ .........Corsican, Texas.
Hestand, John Emerson, B. S., ..................................Edmonton.
Hundley, Leslie, B. S.,..................................................Rome.

Johnston, John Pelham, B. M. E., M. E., '01, ............Lexington.
Johnston, Marius Early, B. S.,.............................Lexington.
Jones, Thomas Almon, A. B.,.................................Creelsboro.
Lester, Arthur Vane, B. C. E., ..............................Richmond, Va.
McCarty, William Carpenter, B. S.,..........................Louisville.
Musselman, Joseph Franklin, B. M. E., M. E., '04, ...Louisville.
Neal, Mary Eliza, A. B.,.......................................Paris.
Nichols, Thomas Ashbrook, B. M. E.,.......................Pittsburg, Pa.
Peyton, Nellie Evans, B. S.,.................................Lexington.
*Ragan, Leonidas, A. B.,.......................................Shearer Valley.
Reed, Jewett Villeroy, B. S.,.................................Louisville.
*Rieser, Eugene Feist, B. M. E.,............................Louisville.
Scrugham, James Graves, B. M. E.,..........................Reno, Nev.
Smith, Albert Elias, B. S.,.....................................Owensboro.
Smith, Joshua Soule, B. M. E., ................................Lexington.
Spears, Miranda Louise, B. S.,...............................Santa Rosa, N. Mex.
Wilson, James Buckley, B. M. E., ...........................Louisville.

## 1901.

Bassett, Henry Preston, B. S., M. S., '02,..................Cynthiana.
Bewlay, Harry, B. M. E., .......................................Chicago, Ill.
*Blessing, Charles Albert, B. M. E., .......................Buffalo, N. Y.
Bliss, Charlotte Miriam, A. B.,..............................Louisville.
Bradley, Charles Walter, B. M. E., ..........................Norfolk, Va.
Butler, Nannie Etta, B. S., ...................................Lexington.
Craig, William James, A. B., ..................................Owensboro.
Cutler, Frank Garfield, B. M. E., M. E., '04,............Chicago, Ill.
Dabney, Albert Smith, A. B., ..................................Cadiz.
Daugherty, Frank, B. M. E., ..................................Pittsburg, Pa.
Ellis, Nicholas Henry, B. Ped.,...............................Faywood.
Gilbert, John Whittington, B. S.,...........................Lawrenceburg.
Gordon, Mary Logan, A. B.,....................................Eminence.
Hailey, George Hereford, B. C, E., ........................ Springfield, Ill.
Hardin, Calvin Evans, B. S., .................................Sibley, La.
*Humphrey, Claude Loecher, B. M. E.,....................Lexington.
Hunt, Robert Bruce, B. M. E.,................................St. Augustine, Fla.
Johnson, William Piatt, B. Ped.,.............................Frederickstown, Mo.
Jones, Leila Eleanor, B. Ped., ................................Eminence.
Kaufman, Philip Levy, B. M. E.,.............................Chicago, Ill.
Klein, Garnet Rosel, B. M. E.,................................Beloit, Wis.
Lary, Alleen Petitt, B. S.,......................................Lexington.
Lewis, Charles Dickens, B. Ped.,.............................Berea.
Luten, Drew William, A. B.,...................................Cayce.
Marshall, Albert Ross, B. S., M. S,, '02,....................Lexington.
Milburn, Frank William, B. M. E., M. E., '04, .........Nashville, Tenn,

*Deceased.

Moore, Thomas Brent, A. B.,....................................Lexington.
Offutt, Jimmie Morrison, B. S., M. S., '04, ..............Louisville.
Pennington, William Lee, B. Ped.,.......................... Sandyhook.
Perkins, Wade Hampton, B. C. E., .............. ..........Nashville, Tenn.
Rankin, Flora Emma, A. B., .................. .... ..........Rankin.
Richmond, Thomas Logan, B. Agr., .................. .... Manila, P. I.
Seibert, Frank Thomas, B. M. E.,.......... .................Philadelphia, Pa.
Sharon, John Albertus, B. Ped., ........................... Paris.
Shedd, Oliver March, B. S., M. S., '04,......................Lexington.
Taylor, Gibson Walker, A. B.,. ....................... ........Troy, Mo.
Treas, Charles, B. C. E., ....................... .................McComb City, Miss.
Webb, William Snyder, B. S., M. S., '02,..................Wewoka, I. T.
West, Perry, B. M. E., M. E., '04, ............................Louisville.
Williams, Ella Campbell, B. S., M. S., '02,..............Chilesburg.

## 1902.

Barr, Thomas James, B. M. E., ..............................Clay City.
Berry, Jesse Cecil, B. Ped., .............. ....................Clintonville.
Boulware, Lemuel Ford, A. B.,................................Campbellsburg.
Bowling, Willette Lee, B. M. E., .......................... New York.
Campbell, Walter Gilbert, A. B.,...........................Lexington.
Clay, Mathew Martin, B. C. E.,............................. Lexington.
Cox, Spencer Foster, B. M. E.,..................................Philadelphia, Pa.
Crider, Albert Foster, A. B., M. S., '03,..................Marion.
Ditto, Leola, B. Ped.,...................................... ......Pleasureville.
Donan, Daniel Cummins, B. Ped., ..........................Hardyville.
Doyle, Chester Lawrence, B. M. E.,........................Chicago, Ill.
Dunn, Oswald Thorp, B. C. E., C. E., '03, ..............New Orleans, La.
Evans, Edwin Clinton, B. M. E., .......... ...............London, Eng.
Ewell, George Watkins, A. B.,................................Columbus, O.
Frazee, George Burbridge, B. M. E., ...... ............. ..Steven's Point, Wis.
Gaither, Morton Williams, B. M. E.,.............. ...... Harrodsburg.
Grady, Clyde, A. B., A. M., '03,................................Smiths Mills.
Hart, William Frederick, B. C. E.,...... ...................St. Louis, Mo.
Hatfield, Ulysses Grant, B. Ped.,.............................Jabez.
Haynes, Robert, B. Ped., ........................... ...........Robards.
Hoeing, Howard Aubrey, B. M. E.,.........................Cincinnati, Ohio.
Hoeing, Wallace, B. M. E., ......................................Louisville.
Hughes, William Neal, B. C. E.,...............................Louisville.
Humphrey, Hubert Lee, B. M. E.,...... ...................Cleveland, Ohio.
Jackson, John Hunt, B. Ped., ......... ........................New Columbus.
Jett, Charles Mills, B. M. E., ...................... .........Alleghany, Pa.
Jones, Theodore Tolman, A. B., A. M., '03, ........... Lexington.
Kehoe, John Hickey, B. M. E.,...... .........................Cynthiana.
Lawhorn, Jesse Sherman, B. Ped., . ........................Paris
Lyne, William, B. M. E.,.......... ........... .............Chicago, Ill.

Maddox, David Campbell, A. B., .............. .. ..........Hickman.
Martin, Lewis Wynn, B. M. E., ..............................St. Louis, Mo.
Mason, Glenn Frank, B. S., M. S., '03, ................ ..Pittsburg, Pa.
McDonald, Samuel Gilbert, B. Agr., ........................Chicago, Ill.
Moorman, Robert Emmett, B. C. E., ........... ..........Phoenixville, Pa.
Pulverman, William Edward, B. M. E., ..................Philadelphia, Pa.
Smith, Chester Martin, B. M. E., ............................Buffalo, N. Y.
Smith, Orville Francis, B. C. E., ...... ..... .. . ..........Phoenixville, Pa.
Stoner, John Lee, B. C. E., ....................................Pikeville.
Sumner, Herman, B. M. E., ...................... .......... Chicago, Ill.
Taylor, Flemin Coffee, B. M. E., ..........................Chicago, Ill.
Taylor, Lewis Nelson, B. S., ................... ..............Science Hill.
Threlkeld, Lal Duncan, A. B., ............... ................Salem.
Upington, George Rout, B. M. E., ..........................Philadelphia, Pa.
Warnock, Thomas Edwin, B. M. E., M. E., '03,..... Chicago, Ill.
Williams, Cora, B. Ped., .........................................Bellevue.
Wilson, Richard Napoleon, B. M. E., ...................Dayton, Ohio.

**1903.**

Austin, Mary Wickliffe, A. B., ...............................Paris.
Barkley, George LaRue, B. M. E., ..........................Springfield, Ill.
Bradley, Homer Theodore, B. M. E., ........................Falmouth.
Brown, John Edwin, B. Agr., ........... ....................Shelbyville.
Bullock, Barry, A. B., ......................... .................Lexington.
Chorn, Sarah Marshall, A. B., .................. ................Lexington.
Cutler, Thomas Henry, B. M. E ...................... ........Springfield, Ill.
Ellis, Richard Washington, B. M. E., ......................Boston, Mass.
Elvove, Elias, B. S., ........ .. ...................................Lexington.
Evans, Frederick Huston, B. M. E., ........................Ironton, Ohio.
Finneran, James Cornelius, B. M. E., ......................Beloit, Wis.
Finneran, Thomas Francis, B. C. E., .......................Midway.
Gaither, Edward Basil, B. M. E., ...........................Mexico.
Galloway, Clarence Albert, A. B., ...... ....................Owenton.
Hamilton, Lloyd Logan, B. M. E., ..................... .... Chicago, Ill.
Hancock, Mason Wallace, A. B., .................... ........Columbia.
Heaton, Herman Creel, B. M. E., ...........................Cincinnati, Ohio.
Higgins, Lucy Joseph, A. B., .................................Louisville.
Hutchings, John Bacon, B. C. E., ...........................Louisville.
Kelly, Edward Owen Guerrant, B. S., M. S., '04, .....Lexington.
Lancaster, John Ralph, B. M. E., ............................Cleveland, Ohio.
Lyle, Cornelius Railey, B. M. E., ...........................New York.
Marks, William Mathews, B. M. E., ............. ........Versailles.
Marshall, Isabella West, A. B., .......... ....................Lexington.
McKee, Neal Trimble, B. M. E., ...................... ......Cleveland, Ohio.
McLaughlin, Marguerite, A. B., ...... ......................Lexington.
Miller, Mina Garrard, B. S. .......... .........................Elkton.
Nave, Miriam Wynter, B. S., ................. .......... .....Lexington.

Norvell, Lucy Hargis, A. B., ............................ Carlisle.
Peckinpaugh, Charles Leon, B. C. E., .................... Louisville.
Pence, Alice Courtney, B. S., M. S., '04, ........ ...... Lexington.
Perrine, Charles Duke, B. M. E., ........................ Maysville.
Rand, Edward, B. M. E., ................................. Beloit, Wis.
Render, Fannie, A. B., ...... ........................... Hartford.
Rice, Guy Wickliffe, B. C. E., ....................... ... Lexington.
Sadler, Reuben Batson, B. S., M. S., '04 ................ Wilmore.
Shannon, Bernardette, A. B., ... ...................... ... Lexington.
Spencer, Howell Mason, B. M. E., ........................ San Francisco, Cal.
Sprake, Eleanor Hedges, A. B., .......... .. ............ Paris.
*Tandy, Clarke Howell, A. B., .................. .... ........ Oxford, Eng.
Thomas, Smith Riley, B. M. E., ........ ......... .......... Beloit, Wis.
Thompson, John James, B. M. E., ........ .... ........... Cincinnati.
Vogt, John Henry Leon, B. M. E., .............. ........... Indianapolis, Ind.
Whitfield, Nellie Herbert, B. S., M. S., '04 .............. Lexington.
Whittinghill, Jackson Pate, B. S., ......................... Glendeane.
Whittinghill, Roscoe Timoleon, B. Ped., ................ Clarksville, Tenn.
Wurtele, Edward Conrad, A. B., ........................ .. Louisville.

## 1904.

Arnett, Richard Hood, B. Ped., ......... ....... ............ Troy.
Austin, Lillian, A. B., ......... .................................. Paris.
Barclay, Robert Hargrave, B. E. M., ........................ Louisville.
Bell, Howard Kerfoot, B. S., B. C. E., ..................... Midway.
Buford, Nancy Bell, A. B., .................................... New Castle.
Butner, Robert Clarke, B. M. E., .... ....................... Lexington.
Clo, J. Harry, B. S., ......................... .................. Science Hill.
Coleman, Harry Raymond, B. Ped., ......................... Latonia.
Crutchfield, William Boulden, A. B., ........... .... .. .Lexington.
Denny, Samuel Alfred, B. S., ................................ Madisonville.
Dodson, Marcus Alvin, B. Ped., ............................. Monticello.
Dowling, Edward Thomas, B. M. E., .................. Lexington.
Doyle, Martin Augustus, B. M. E., ......................... Paris.
Dyer, Orville Kirk, B. M. E., ..................... ..... ...... De Koven.
Freeman, William Edwin, B. M. E., ........................ Lexington.
Fry, Henry Skillman, B. M. E. ................................ Lexington.
Gardner, James Henry, B. S., ......................... .... Sonora.
Gary, William Edward, B. S., ............................... Pembroke.
Gilliland, Eugene, B. M. E , ........................ .... .... Chenault.
Gilmore, Charles Robert, B. S., ......................... ..... Valley Oak.
Gordon, Amos Alvin, B. C. E., .... ....................... Owensboro.
Grey, William David, B. C. E., ................... ............ Louisville.
Gullion, Carroll Hanks, B. M. E., ......... .................. New Castle.
Harding, George Othniel, B. C. E., .... ................... Campbellsville.
Hart, Benjamin Robert, B. S., ............... ... ............ Pisgah.

*First Kentucky holder of Rhodes Scholarship.

Hart, Margaret Rebecca, A. B., ............................Pisgah.
Hedges, Fleming Dillard, A. B., ............................Walton.
Hoagland, Roy Chan, B. S., ............................New Castle.
House, Beverly Pryor, A. B.,............................Manchester.
Howard, Styles Ironton, B. M. E., ............................Rockvale.
Hunter, Patrick Owen, B. M. E.,............................Glendeane.
Jaeger, Helen Louise, A. B., ............................Los Angeles, Cal.
Jenkins, Alexander Lewis, B. M. E., ............................Bloomfield.
Johnson, Frank Yarbrough, B. M. E.,............................Atlanta, Ga.
Johnston, Hampton Wallace, B. M. E., ............................Lebanon.
Kelly, Walter Pearson, B. S., ............................Hickory Flat.
Lewis, Joseph Graham, B. C. E.,............................Oakland.
Madara, Helen Glenn, A. B.,............................ Lexington.
Maguire, Mary Josephine, B. S., ............................Lexington.
Matlack, Charles Aloysius, B. M. E.,............................Lexington.
Matthews, John Eve, B. M. E.,............................ Barbourville.
McCann, Sue Dobyns, B. S.,............................Lexington.
McCauley, James Simeon, B. M. E., ............................Versailles.
McCaw, Eloise Chesley Hance, B. S.,............................Pisgah.
Monson, Bessie Lee, B. Ped., ............................Shady Nook.
Montgomery, Francis Joseph, A. B.,............................Lexington.
Nollau, Louis Edward, B. M. E., ............................ Louisville.
Payne, William Campbell, B. S.,............................Lexington.
Peratt, Charles Oscar, A. B.,............................Hilltop.
Pickles, George Wellington, B. C. E.,............................Richmond.
Porch, Madison B., B. S., ............................Somerset.
Puckett, Honer, B. C. E., ............................Tonieville.
Ramey, Emerson Everett, B. M. E., ............................Carlisle.
Renz, Gertrude, B. S.,............................Louisville.
Rice, Heber Holbrook, B. S., ............................Cambridge, Mass.
Sandefur, James Franklin, A. B., ............................Henderson.
Schneiter, Frederic Lewis, B. C. E., ............................Louisville.
Schultz, Elmer Wilkerson, A. B., ............................Lexington.
Shelby, John Craig, A. B.,............................Cambridge, Mass.
Shobe, William Merritt, B. Agr.,............................Oakland.
Smedley, Sarah Cleveland, A. B., ............................Ft. Spring.
Smith, Claude Robert, B. S.,............................Elizabethtown.
Smith, Thomas Marshall, B. S.,............................Hooktown.
Stackhouse, Clifton Carr, B. M. E.,............................Lexington.
St. John, Claire Porter, B. M. E.,............................Brooklyn, N. Y.
Thurman, Zella Mae, B. S.,............................ Somerset.
Tucker, Nannie Susan, A. B., ............................Washington.
Vaughn, Earl Cleveland, A. B.,............................Smithville.
Warder, William Henry, B. C. E., ............................Glasgow.
Ware, Cornelius, B. Ped.,............................Pulaski.
Wilkie, Margaret Donald Erskine, B. S., ............................Lexington.
Wilson, George Hancock, B. S., ............................Lexington.
Wurtele, Henry Joseph, B. C. E.,............................ Louisville.

# MILITARY DEPARTMENT.

FIRST LIEUT. W. B. BURTT, 5TH U. S. INFANTRY,
*Commandant.*

## ROSTER OF THE CADET BATTALION.

*Staff.*

| ADJUTANT. | QUARTERMASTER. | COMMISSARY. |
|---|---|---|
| D. C. Kinkead. | J. C. Newman. | J. C. Nesbit. |

*Non-Commissioned Staff.*

| SERGEANT. | QUARTERMASTER-SERGEANT. | COMMISSARY-SERGEANT. |
|---|---|---|
| J. R. Nunnelley. | P. T. Atkins. | J. M. Sprague. |

COLOR-SERGEANTS.
W. P. Kemper.
W. McKinney.

| A COMPANY. | B COMPANY. | C COMPANY. | D COMPANY. |
|---|---|---|---|
| CAPTAIN. | CAPTAIN. | CAPTAIN. | CAPTAIN. |
| E. P. Kelly. | W. P. Wiley. | O. McDowell. | W. F. Downing. |
| FIRST LIEUT. | FIRST LIEUT. | FIRST LIEUT. | FIRST LIEUT. |
| H. E. Read. | R. C. Terrill. | H. C. Robinson. | C. C. Hedges. |
| SEC. LIEUT. | SEC. LIEUT. | SEC. LIEUT. | SEC. LIEUT. |
| F. C. Mahan. | A. N. Whitlock. | L. C. Brown. | J. M. McHargue. |
| 1ST SERGEANT. | 1ST SERGEANT. | 1ST SERGEANT. | 1ST SERGEANT. |
| F. R. Sellman. | F. Bogard. | C. J. McPherson. | F. W. Rankin. |
| SERGEANTS. | SERGEANTS. | SERGEANTS. | SERGEANTS. |
| D. P. Branson. | R. A. Arnspiger. | A. L. Donan. | J. W. Lancaster. |
| W. D. Woodard. | H. H. Wilson. | E. L. Rees. | R. E. Dragoo. |
| G. Daugherty. | D. H. Allen. | A. S. Karsner. | G. B. Howard. |
| A. T. Lewis. | S. C. Jones. | L. L. Lewis. | B. McClelland. |
| H. E. Stephens. | J. W. Rodes. | H. D. Spears. | A. W. Steele. |
| CORPORALS. | CORPORALS. | CORPORALS. | CORPORALS. |
| T. R. Bryant. | F. A. Battaile. | C. E. Schoene. | H. H. Downing. |
| G. R. Veal. | B. S. Craig. | R. L. Acker. | G. Wilkes. |
| J. G. Allen. | R. S. Hart. | T. F. Ott. | D. C. Estill. |
| G. T. Bogard. | L. E. Hillenmeyer. | F. S. Vogt. | G. Edgar. |
| S. W. Almy. | R. L. Sims. | G. Barbee. | P. Rule. |
| C. R. Galloway. | A. L. Poynter. | J. R. Ammerman. | M. C. Crafton. |

| BATTERY. | | SIGNAL CORPS | |
|---|---|---|---|
| CAPTAIN. | 1ST SERGEANT. | CORPORALS. | SERGEANT. |
| H. S. Scott. | J. C. Hamilton. | F. S. Paullin. | G. P. Edmonds. |
| FIRST LIEUT. | SERGEANTS. | A. M. Kirby. | CORPORALS. |
| M. F. Smith. | P. Riefkin. | F. Kelly. | L. S. Boggess. |
| SEC. LIEUT. | R. H. Moore. | W. C. Dodson. | P. F. Shannon. |
| R. E. Hopgood. | B. E. Brewer. | | |
| | R. D. Scott. | | |

## POST-GRADUATES.

| | | |
|---|---|---|
| Anderson, Henry Clay, B. M. E., | Mech. Eng. | Ann Arbor, Mich |
| Barclay, Robert Hargrove, B. E M., | Min. Eng | Louisville. |
| Bewlay, Henry, B. M. E., | Mech. Eng | Lexington. |
| Cassidy, Elizabeth, A. B, | Classical | Lexington. |
| Chorn, Sarah Marshall, A. B., | Classical | Lexington. |
| Clarke, Mary Eva, B. S., | Classical | Lexington. |
| Clo, J. Harry, B. S., | Scientific | Science Hill. |
| Cox, Spencer Foster, B. M. E., | Mech. Eng | Philadelphia, Pa. |
| Crutchfield, William Boulden, A. B., | Classical | Lexington. |
| Evans, Edward Clinton, B. M. E., | Mech. Eng | Johnstown, Pa. |
| Frazee, George Burbridge, B. M. E., | Mech. Eng. | Louisville. |
| Geerheardt, Othon | Scientific | Belgium. |
| Hart, Benjamin Robert, B. S., | Scientific. | St. Louis, Mo. |
| Heaton, Herman Creel, B. M. E, | Mech. Eng | Cincinnati, O. |
| Hoeing, Wallace, B. M. E., | Mech. Eng | Louisville. |
| Hoeing, Howard Aubrey, B. M. E., | Mech. Eng | Cincinnati, O. |
| House, Beverly Pryor, A. B., | Classical | Manchester |
| Hunt, Robert Bruce, B. M. E., | Mech. Eng | St. Augustine, Fla. |
| Kelly, Walter Pearson, B. S., | Scientific | Gibbstown, N. J. |
| Klein, Garnett Rosel, B. M. E., | Mech. Eng | Louisville. |
| Martin, Lewis Wynn, B. M. E., | Mech.. Eng | St. Louis, Mo. |
| McCann, Sue Dobyns, B. S., | Scientific | Lexington. |
| Pulverman, William Edward, B. M. E., | Mech. Eng | Philadelphia, Pa. |
| Sandefur, James Franklin, A. B., | Classical | Henderson. |
| Scherffius, William Henry, B. S., | Scientific | Lexington. |
| Scholtz, Theodore Walker, B. M. E., | Mech. Eng | Pittsburg, Pa. |
| Smith, Thomas Marshall, B. S., | Scientific. | Hooktown. |
| Sweeney, Mary E., B. S., | Scientific | Lexington. |
| Taylor, Flemin Coffee, B. M. E., | Mech. Eng | Ft. Smith, Ark. |
| Vaughn, Earl Cleveland, A. B., | Agriculture | Shelbyville. |
| Walrath, Louis Dayton, B. S., | Scientific | Wilmore. |
| Walsh, Robert Bright, A. B., | Classical | Chattanooga. |
| Whitfield, Nellie Herbert, B. S., | Classical | Lexington. |
| Wilkie, Margaret Donald Erskine, B. S, | Scientific | Lexington. |
| Wilson, Joseph Buckley, B. M. E., | Mech. Eng | Louisville. |

## UNDERGRADUATES.

### SENIORS.

| | | |
|---|---|---|
| Adamson, Keith Frazee | Mech. Eng | Maysville. |
| Akin, Allison | Mech. Eng | Princeton. |
| Amoss, Harold Lindsay | Scientific | Cobb. |
| Baumgarten, Louis Erwin | Mech. Eng. | Louisville. |
| Bickel, Charles Alfred | Mech. Eng | Louisville. |
| Brashear, Sue Ashbrook | Classical | Cynthiana. |

| | | |
|---|---|---|
| Bryan, Ruth Mitchell | Classical | Lexington. |
| *Burtt, Wilson Bryant | Civil Eng. | Lexington. |
| Campbell, Marion | Scientific | Louisville. |
| Cline, Edgar Allen | Mech. Eng. | Lexington. |
| Coons, Joseph Morrison | Civil Eng. | Mt. Sterling. |
| Darling, Henry Bosworth | Mech. Eng. | Carrollton. |
| Darnall, Frank Kendrick | Mech. Eng. | Helena. |
| Dietrich, Karl Lander | Mech. Eng. | Hopkinsville. |
| Dodd, Minnie Lee | Scientific | Louisville. |
| Drake, Jimmie | Classical | Lexington. |
| Edwards, Harry Griswell | Mech. Eng. | Louisville. |
| Eubank, Walter Pendleton | Civil Eng. | Glasgow. |
| Gfroerer, Fannye Rosalie | Scientific | Louisville. |
| Gilbert, George Hubbard | Mech. Eng. | Lawrenceburg. |
| Grady, William Henry | Mech. Eng. | Trenton. |
| Ham, Clarence Walker | Mech. Eng. | Carlisle. |
| Haynes, Chastain Wilson | Scientific | Marion. |
| Ingels, Howard Payne | Mech. Eng. | Lexington. |
| Johnston, Fayette. | Mech. Eng. | Lexington. |
| Kelly, William Cobb | Civil Eng. | Fulton. |
| Kroell, Oscar R | Mln. Eng. | Cincinnati, O. |
| Lancaster, Charles Prentice | Civil Eng. | Paris. |
| Layson, William George | Mech. Eng. | Millersburg. |
| Morris, Stewart Minor | Mech. Eng. | Lexington. |
| Murphey, Ernest James | Classical | Pembroke. |
| Murrell, Artemus Delig. | Mech. Eng. | Merrimac. |
| Ogg, Grace Truman | Classical | Mt. Sterling |
| Owens, Charles Beland | Mech. Eng. | Germantown. |
| Payne, William Johnson | Mech. Eng. | Georgetown. |
| Pierce, Claude Stone | Classieal | Pulaski. |
| Pope, Henry B | Min. Eng | Louisville. |
| Powell, Max West | Mech. Eng. | Hickman. |
| Prather, Harry Logan | Mech. Eng. | State Line. |
| Ransom, Edward Rogers | Agriculture | Blandville. |
| Reese, Robert Harcourt | Civil Eng. | Cynthiana. |
| Roberts, Virgil Dick | Mech. Eng. | Westview. |
| Rogers, Anna Gist | Classical | Lexington. |
| Schoene, William Jay | Agriculture | Henderson. |
| Scholtz, Herman Frederick | Civil Eng. | Louisville. |
| Shaw, Bessie | Classical | Versailles. |
| Shipp, Joel Fithian | Mech. Eng. | Paris. |
| Sprake, James Breckinridge | Mech. Eng. | Stamping Ground. |
| Stiles, Elijah V. Bland | Civil Eng. | Hodgensville. |
| Thomas, Bennett | Mech. Eng. | Paris. |
| Tomlinson, Hugh Joseph | Mech. Eng. | Bryantsville. |

*From U. S. Military Academy, 1898.

| | | |
|---|---|---|
| Tye, Rachel | Classical | Polleyton. |
| Urmston, Henry Howard | Mech. Eng | Cynthiana. |
| Wallis, Charles Rees | Mech. Eng | McKinney. |
| Walsh, Robert Bright | Classical | Chattanooga. |
| Wathen, Sallyneill | Scientific | Louisville. |
| Weaver, Walter Simeon | Agriculture | Hubbell. |
| Webb, Elzie | Civil Eng | Downs. |
| Werness, Inga Marie | Scientific | Louisville. |
| West, Howard Murphy | Mech. Eng | Nicholasville. |
| Woerner, Emma Josephine | Scientific | Louisville. |
| Wood, Hugh Nelson | Civil Eng | Hopkinsville. |
| Woosley, Herman | Agriculture | Fairview. |
| Wright, Charles Roy | Civil Eng | Lexington. |

JUNIORS.

| | | |
|---|---|---|
| Allen, David Hugh | Mech. Eng | Elizabethtown. |
| Atkins, Presley Thornton | Classical | Lexington. |
| Baird, Elza Leet | Civil Eng | Greenvilie. |
| Baxter, William Jefferson | Classical | Logana. |
| Bogard, Frank | Mech. Eng | Golden Pond. |
| Brown, Llewellyn Chauncey | Mech. Eng | Harrodsburg. |
| Bryan, Daniel Boone | Mech. Eng | Lexington. |
| Campbell, Elizabeth Brown | Classical | Louisville. |
| Cartwright, Coleman Clyde | Civil Eng | Louisville. |
| Chinn, Alexander Julian | Mech. Eng | Frankfort. |
| Clarke, Sarah Gregory | Classical | Lexington. |
| Clo, Nelson Lewis | Mech. Eng | Science Hill. |
| Conn, Grace Frank | Scientific | Lexington. |
| Daugherty, Garrard | Scientific | Paris. |
| Downing, William Franklin | Mech. Eng | Lexington. |
| Dragoo, Robert Estill | Mech. Eng | Lexington. |
| Durham, William Humphrey | Normal | Humphrey. |
| Duvalle, Rankin Powers | Civil Eng | Stamping Ground. |
| Edmonds, George Peck | Mech. Eng | Lebanon. |
| Francis, Lewis | Min. Eng | Red Ash. |
| Goggin, Bessie Engleman | Scientific | Somerset. |
| Goodloe, Green Clay | Scientific | Lexington. |
| Gough, Archilles Galloway | Mech. Eng | Benton. |
| Gregory, Mary Cottell | Classical | Louisville. |
| Hamilton, James Clay | Mech. Eng | Uniontown. |
| Hedges, Charles Cleveland | Scientific | Walton |
| Herndon, Leonard George | Classical | Louisville. |
| Hopgood, Roy Caldwell | Mech. Eng | Morganfield. |
| Hopson, Katharine Temple | Classical | Lexington. |
| Hutchcraft, Lucy Keller | Classical | Lexington. |
| Jones, Sadocie Connellee | Agriculture | Porter. |
| Kelly, Edward Patrick | Classical | Hawesville. |

| | | |
|---|---|---|
| Kemper, William Priest | Civil Eng | Millersburg. |
| Kinkead, Davis Carneal | Mech. Eng | Lexington. |
| Lancaster, John Wilbur | Normal | Josephine. |
| Letton, James Harvey | Civil Eng | Paris. |
| Lewis, Alexander Thornton | Mech. Eng | Frankfort. |
| Magee, Robert Earl | Mech. Eng | Cynthiana. |
| Magee, Wallace Hopkins | Mech. Eng | Louisville. |
| Mahan, Fred Coit | Mech. Eng | Hyattsville. |
| Mahoney, Elizabeth Margaret | Scientific | Bedford |
| McClelland, Byron | Scientific | Walnut Hill. |
| McCulloch, Eugenia Sue | Scientific | Louisville. |
| McDowell, Omar | Mech. Eng | Mt. Olivet. |
| McHargue, James Spencer | Scientific | Boreing. |
| McPherson, Charles Jarrett | Mech. Eng | Hopkinsville. |
| Megee, Hilton Harvey | Civil Eng | Lexington. |
| Montgomery, Charles Carter | Mech. Eng | Liberty. |
| Moore, Henry Ray | Mech. Eng | Huber. |
| Newman, James Cleveland | Mech. Eng | Lexington. |
| Nisbit, James Clarence | Civil Eng | Madisonville. |
| Nunnelley, Eva May | Classical | Lexington. |
| O'Neil, Frank, Jr | Mech. Eng | Paris. |
| Prewitt, Wilmott Kenney | Mech. Eng | Mt. Sterling. |
| Rankin, French Wade | Mech. Eng | Cynthiana. |
| Read, Henry English | Mech. Eng | Hodgensville. |
| Riefkin, Philip | Mech. Eng | Newport. |
| Robinson, Herman Clayton | Mech. Eng | Georgetown. |
| Rodes, Allen Higgins | Scientific | Lexington. |
| Rogers, James Dell | Civil Eng | Louisville. |
| Scott, Henry Skillman | Mech. Eng | Bement, Ill. |
| Scott, Mary Estill | Scientific | Richmond. |
| Scrugham, Mary | Classical | Lexington. |
| Sellman, Frank Raymond | Mech. Eng | Nicholasville. |
| Smith, Maxwell Waide | Civil Eng | Hot Springs, Ark. |
| Stevens, Harold Edwin | Agriculture | Pruett. |
| Taliaferro, Robert Ryland | Mech. Eng | Pedro, Va. |
| Taylor, Hugh Wilbur | Agriculture | Lewisport. |
| Terrill, Robert Craig | Civil Eng | Bedford. |
| Trice, John Buckner | Mech. Eng | Hopkinsville. |
| Volkman, Alice | Classical | Louisville. |
| Waide, David Frederick | Scientific | Nicholasville. |
| Wallis, Anna | Classical | Lexington. |
| Webb, John, Jr | Mech. Bng | Lexington. |
| Weir, Fanny | Classical | Louisville. |
| Wendt, Wiley Brodbeck | Civil Eng | Newport. |
| Whitlock, Albert Newton | Classical | Richmond. |
| Whittinghill, John Pate | Min. Eng | Glendeane. |

| | | |
|---|---|---|
| Wiley, Rodman | Civil Eng | White Sulphur. |
| Wilkie, Florence | Classical | Lexington. |
| Wilson, Horace Hildebrand | Mech. Eng | Lexington |

### SOPHOMORES.

| | | |
|---|---|---|
| Abraham, Juanita | Scientific | Louisville. |
| Acker, Robert Louis | Civil Eng | Paducah. |
| Alexander, Josie | Classical | Paris |
| Allen, John Griffin | Civil Eng | Owensboro. |
| Almy, Samuel Willett | Mech. Eng | Altamont. |
| Ammerman, John Roger | Mech. Eng | Cynthiana. |
| Archdeacon, Joseph John | Mech. Eng | Mayslick. |
| Arnold, Lloyd La Claire | Mech. Eng | Bagdad. |
| Arnspiger, Rodes Allen | Scientific | Lexington. |
| Baer, Stanley T. | Civil Eng | Louisville. |
| Bagby, Mary Logan | Classical | Danville. |
| Battaile, James Frank | Mech. Eng | Lexington. |
| Becker, Theodore Henry | Mech. Eng | Louisville. |
| Boggess, Louis Sterling | Civil Eng | Lawrenceburg. |
| Bowen, Thomas Stout | Civil Eng | Frankfort. |
| *Branham, William Henry | Civil Eng | Georgetown. |
| Branson, Dom Pedro | Agriculture | Dye. |
| Brewer, Boltos Elder | Agriculture | Williamstown. |
| Brown. William Waters | Civil Eng | Shelbyville. |
| Carney, Edward Donald | Mech. Eng | Hopkinsville. |
| Carse, Robert Allen | Mech. Eng | Richmond. |
| Crafton, Milton Cooksie | Civil Eng | Henderson. |
| Cram, Ambrose Byrd | Civil Eng | Morgan. |
| Craig, Berrywick Staley | Mech. Eng | Versailles. |
| Crume, James Marks | Mech. Eng | Lebanon. |
| Denham, Ernest Myers | Civil Eng | Williamsburg. |
| Dodd, Daniel Jackson | Civil Eng | Lexington. |
| Dodson, Walter Cleveland | Normal | Monticello. |
| Donan, Arthur Liston | Civil Eng | Three Springs. |
| Edgar, Graham | Scientific | Paris. |
| Elam, Shelby Smith | Normal | Elam |
| Estill, David Chenault | Mech. Eng | Lexington. |
| Farrell, Walter Augustus | Mech. Eng | Dayton. |
| Forbes, James Madison | Civil Eng | Hopkinsville. |
| Goodwin, William Ingram | Civil Eng | Lexington. |
| Gordon, Flora McPheters | Classical | Lexington. |
| Gratz, Nicholas Warfield | Civil Eng | Lexington. |
| Grunwell, Paul Clifton | Mech. Eng | Centerville. |
| Guyn, Joel White | Civil Eng | Lexington. |
| Hamilton, William Shacklette | Classical | Brandenburg. |

*Second Kentucky holder of a Rhodes Scholarship.

| | | |
|---|---|---|
| Hardin, Guy Aud | Mech. Eng | Brandenburg. |
| Hart, Robert Singleton | Classical | Pisgah. |
| Haynes, Elliott Latham | Civil Eng | Louisville. |
| Hermann, Joseph George | Civil Eng | Newport. |
| Hillenmeyer, Louis Edward | Agriculture | Lexington. |
| Horton, Harry Curtis | Classical | Paris. |
| Howard, Guyle Benton | Mech. Eng | Rockvale. |
| Hudson, William Edward | Civil Eng | Godfrey. |
| Hutchings, Eusebius Theodore | Civil Eng | Louisville. |
| James, Henry Lane | Classical | Mt. Sterling. |
| Johnson, Ellis Murray | Mech. Eng | Lebanon. |
| Karsner, Albert Sharkey | Civil Eng | Lexington. |
| Kirby, Augustus Morris | Classical | Butler. |
| Lawson, Fayette Hewett | Mech. Eng | Shively. |
| Lee, Stanley Frazee | Mech. Eng | Ironton, O. |
| Logan, George Lewis | Mech. Eng | Lexington. |
| Maddocks, Florence May | Scientific | Carrollton. |
| Madison, James Talbot | Civil Eng | Cynthiana. |
| Mahan, Charles Alfred | Agriculture | Lancaster. |
| Mathis, Charles Brothers | Mech. Eng | Salt River. |
| McClelland, Thomas Brown | Classical | Lexington. |
| McKinney, Walter | Mech. Eng | Mt. Salem. |
| McVey Ernest Clyde | Civil Eng | Williamsburg. |
| Montgomery, William Mason | Mech. Eng | Frankfort. |
| Nicholls, William Durrett | Agriculture | Bloomfield. |
| Nunnelley, James Robert | Mech. Eng | Lexington. |
| Ott, Thomas Foreman | Scientific | Lexington. |
| Parrish, Charles Swift | Classical | Lexington. |
| Paullin, Frank Chester | Civil Eng | Springfield, Ill. |
| Piper, Mary Hammond | Classical | Lexington. |
| Rankin, Frederick Jones | Mech. Eng | Rankin. |
| Rees, Elijah Laytham | Civil Eng | Lexington. |
| Roark, Ruric Creagan | Scientific | Lexington. |
| Rodes, Joseph Waller, Jr | Civil Eng | Lexington. |
| Rogers, Fanny Clarke | Classical | Lexington. |
| Rule, Parrin | Mech. Eng | Falmouth. |
| Scherffius, Benjamin Franklin | Agriculture | Lynnville. |
| Schoene, Charles Edward | Mech. Eng | Henderson. |
| Shannon, Philip Francis | Mech. Eng | Lexington. |
| Spears, Howell Davis | Scientific | Lexington. |
| Sprague, Joseph Miles | Mech. Eng | Sturgis. |
| Steele, Arthur Winslow | Mech. Eng | Yarnallton. |
| Stigers, James Francis | Civil Eng | Frankfort. |
| Stone, William Morgan | Classical | Bethel. |
| Strachan, George Morris | Civil Eng | Louisville. |
| Sumner, Gordon | Civil Eng | Greenville. |

| | | |
|---|---|---|
| Sutherland, Clay Hutchcraft | Mech. Eng | Paris. |
| Taylor, Richard Moreland | Civil Eng | Owensboro. |
| Terry, James Cad | Mech. Eng | Elizabethtown. |
| Thomas, John William | Mech. Eng | Georgetown. |
| Thorne, James Webster | Mech. Eng | Louisville. |
| Towery, Beverly Todd | Classical | Marion. |
| Urmston, Katherine | Normal | Cynthiana. |
| Vandercook, Ralph | Civil Eng | Springfield, Ill. |
| Vogt, Frank Sherman | Mech. Eng | Louisville. |
| Wallis, Elizabeth Ward | Scientiffc | Lexington. |
| White, William Terrell | Mech. Eng | Louisville. |
| Wilkes, Gilbert Van Buren | Mech. Eng | Washington. |
| Woodard, William Drane | Mech. Eng | Beaver Dam. |
| Woods, William Clarence, Jr. | Agriculture | Lawrenceburg. |
| Yager, John Joel | Mech. Eng | Leitchfield. |

## FRESHMEN.

| | | |
|---|---|---|
| Adair, George Stalworthy | Mech. Eng | Paris. |
| Alden, William Oliver | Civil Eng | Petersburg. |
| Alexander, Josie | Normal | Paris. |
| Allen, Lutie Darnall | Scientific | Lexington. |
| Allen, S. H | Normal | |
| Anderson, Lee | Mech. Eng | Spencer. |
| Ashbrook, Samuel J | Civil Eng | Cynthiana. |
| Avery, Anna Jeffords | Classical | Lexington. |
| Babbage, Arthur Wallace | Classical | Cloverport. |
| Barbee, George Read | Mech. Eng | Lexington. |
| Bean, Henry Campbell | Civil Eng | Lexington. |
| Bean, Louis Vimont | Civil Eng | Lexington. |
| Beard, Thomas Wilson | Civil Eng | Lexington. |
| Bell, Duncan | Mech. Eng | Nicholasville. |
| Bennett, Benjamin Warfield | Classical | Richmond. |
| Bennett, Clarence Smason | Mech. Eng | Narrows. |
| Blessing, Paul Nestel | Mech. Eng | Carrollton. |
| Bogard, George Taylor | Mech. Eng | Golden Pond. |
| Bowlds, Fleming | Normal | Philpot. |
| Brewer, Leo | Classical | Golo. |
| Brown, Morris Trumbo | Civil Eng | Owingsville. |
| Browning, John Keith | Mech. Eng | Maysville. |
| Bryant, Thomas Ripley | Agriculture | Eminence. |
| Buchanan, Allie Stout | Mech. Eng | Payne's. |
| Buckner, Ella Simpson | Classical | Lexington. |
| Buckner, Garrett Davis | Scientific | Lexington. |
| Burgueires, Ernest Aloysius | Mech. Eng | New Orleans. |
| Carter, Sara McEachin | Classical | Lexington. |
| Clarke, Mary Erd | Classical | Lexington. |

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|---|---|---|
| Clary, Delling | Mech. Eng | Cynthiana. |
| Clary, Howe Boyd | Mech. Eng | Lexington. |
| Clay, Roby Wornall | Mech. Eng. | Lexington. |
| Cline, Stella | Normal | Lexington. |
| Coleman, Samuel Boin | Civil Eng | Elkton. |
| Cornelison, Hubert Lee | Mech. Eng | Richmond. |
| Crowder, Margaret Lee | Classical | Sinai. |
| Curtis, James Steward | Mech. Eng | Lexington. |
| Dabney, Sidney Vaughn | Classical | Paducah. |
| Daugherty, Helen Lucille | Classical | Paris. |
| Dean, Willis Johnson | Mech. Eng | Owensboro. |
| Downing, Harry Hardesty | Civil Eng | Lexington. |
| Earle, Irbie Benjamin | Civil Eng | Madisonville. |
| Feland, Faris Robinson | Classical | Lawrenceburg. |
| Fishback, James Morgan | Mech. Eng | Pine Grove. |
| Fried, Sienna Kathryn | Scientific | Lexington. |
| Galloway, Clinton Robert | Mech. Eng. | Falmouth. |
| Givens, Tom Karr | Agriculture | Paducah. |
| Gooding, Lemuel Parry | Scientific | Lexington. |
| Green, Warren Thornton | Mech. Eng | English. |
| Hamilton, William Perry Browning | Scientific | Lexington. |
| Heenan, Joseph Harper | Scientific | West Point. |
| Herring, Henry Samuel | Mech. Eng | Oakville. |
| Holland, Reuben Miller | Scientific | Whitesville. |
| Houlihan, John Joseph | Scientific | Lexington |
| Howerton, Thomas McCluskey | Civil Eng | Shelbyville. |
| Hutchcraft, Davis Keller | Mech. Eng | Lexington. |
| Johnson, Betsey Herndon | Classical | Muir. |
| Johnson, Mary Smith | Classical | Muir. |
| Keller, Irvine Morse | Mech. Eng | Shawhan. |
| Kelly, Cott C. | Civil Eng | Hickory Flat. |
| Kiesel, Walter Christian | Mech. Eng | Carrollton. |
| Kinkead, Edmond Shelby | Scientific | Lexington. |
| Kinkead, Carneal | Scientific | Lexington. |
| Kirby, Walter L | Classical | Butler. |
| Kirk, Estill | Civil Eng | Philpot. |
| Kirk, Morris Cushman | Mech. Eng | Maysville. |
| Lilly, Walter Thomas | Scientific | Lexington. |
| Lynch, Kathryn Wilhelmine | Scientific | Nicholasville. |
| Manning, George Madison | Classical | Manchester, |
| Martin, Grace Lee | Classical | Lexington. |
| Mathers, Albert Marion | Mech. Eng | Carlisle. |
| McCauley, Joseph Muir | Mech. Eng | Morganfield. |
| McCorkle, Graham King | Mech. Eng | Eminence. |
| McCullough, William Henry | Civil Eng | Louisville. |
| McCutcheon, Jesse Robert | Mech. Eng | Beattyville. |

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|---|---|---|
| McDowell, Robert Chester | Civil Eng | Louisville. |
| McFerran, Warren Viley | Mech. Eng | Versailles. |
| McGinnis, John Logan | Mech. Eng | Versailles. |
| McKee, Grover Cleveland | Civil Eng | Cynthiana. |
| McNamara, William Ignatius | Mech. Eng | Lexington. |
| McNutt, James Morton | Classical | Black Walnut, Va. |
| McPherson, Robert Lee | Normal | McGuffey. |
| Milton, James Leslie | Civil Eng | Marion. |
| Nicholas, Evelyn VanMeter | Classical | Lexington. |
| Noel, William Henry | Mech. Eng | Bellevue. |
| Oldham, Edwin Bronston | Scientific | Lexington. |
| Orr, Thomas James | Mech. Eng | Princeton. |
| Pence, Christina | Classical | Lexington. |
| Penn, John Buford | Mech. Eng | Georgetown. |
| Penrod, Alphon | Mech. Eng | Lexington. |
| Pogue, Joseph Laytham | Mech. Eng | Mayslick. |
| Powell, Frank Congleton | Mech. Eng | Carlisle. |
| Poynter, Arthur Lawrence | Mech. Eng | Adairsville. |
| Preston, William | Classical | Lexington. |
| Proctor, Bennett McCreary | Mech. Eng | Lexington. |
| Rice, Clayton Jefferson | Civil Eng | Greenville. |
| Roche, Frank Lee | Scientific | Paris. |
| Rodes, William, Jr | Scientific | Lexington. |
| Roswell, Charles Miller | Mech. Eng | Sparta. |
| Roth, Henry Clay | Mech. Eng | Waterbury, Conn. |
| Sampson, Reed J | Mech. Eng | Middlesboro. |
| Scherer, Raymond Adelbert | Mech. Eng | Lexington. |
| Schroth, Carl Anderson | Mech. Eng | Lexington. |
| Schultz, Henry Jacob | Mech. Eng | Louisville. |
| Scott, Robert Dumont | Mech. Eng | Lexington. |
| Shanklin, Shelby | Classical | Lexington. |
| Shelby, William Washington | Min. Eng | Henderson. |
| Shryock, William Masner | Mech. Eng | Lexington. |
| Sims, Robert Lee | Mech. Eng | Lexington. |
| Slack, Ella | Normal | West Point. |
| Slicer, Amos | Mech. Eng | Paris. |
| Smith, Rand | Mech. Eng | Lexington. |
| Smith, Milton Sears | Mech. Eng | Nicholasville. |
| Snyder, Mary | Classical | Lexington. |
| Speyer, Harry Aaron | Scientific | Kansas City. |
| Steinert, Louise Franzman | Scientific | Versailles. |
| Stoll, John William | Scientific | Lexington. |
| Stone, Ellen | Classical | Sturgis. |
| Swartz, Guy Taylor | Mech. Eng | Carlisle. |
| Swearingen, William Roy | Civ. Eng | Paris. |
| Taylor, Guy Baker | Scientific | Lexington. |

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|---|---|---|
| Thompson, George Christopher | Mech. Eng | Paducah. |
| Thompson, Harry Worthington | Civil Eng | Fernleaf. |
| Viley, John Rodes | Mech. Eng. | Lexington. |
| Walker, Madie Lee | Classical | Lexington. |
| Warren, Thomas Philip | Mech. Eng | Lexington. |
| Watson, James Saffell | Civil Eng | Lexington. |
| Wegner, Frank August | Agriculture | Lexington. |
| Wilhoit, Azra Lytle | Mech. Eng | Utica. |
| Wilkes, Francis Marshall | Classical | Washington. |
| Wilson, Robert Clyde | Mech. Eng. | Lexington. |
| Yates, Howard | Classical | Covington. |
| Young, Ralph Gray | Civil Eng. | Covington. |

NOT REGULARLY CLASSIFIED.

| | | |
|---|---|---|
| Wright, J. R | Agriculture | Louisville. |

## NORMAL STUDENTS.

FOR THE STATE DIPLOMA.

| | | |
|---|---|---|
| Alcorn, Stella | Greenwood | Pulaski. |
| Black, Marvin | Hartford | Ohio. |
| Brown, Ira Clay | Humphrey | Casey. |
| Bruner, Jacob Franklin | Whitesville | Daviess. |
| Caudill, Stephen Emory | Whitesburg | Letcher. |
| Cawood, Frank Finley | Harlan | Harlan. |
| Clark, Charles Estill | Maytown | Morgan. |
| Cram, Edith | Morgan | Pendleton. |
| Ford, Nell Hart | Lexington | Fayette. |
| Garman, Fred | Lexington | Fayette. |
| Goddard, Thomas Lewis | Monticello | Wayne. |
| Goddard, Joseph Justin | Monticello | Wayne. |
| Haney, William Henry | Ezel | Morgan. |
| Kelly, Frank Evarts | Evarts | Harlan. |
| Lisle, Andrew | Ford | Madison. |
| Miller, John Clyde | Olmstead | Logan. |
| Morgan, Vina | Yerkes | Perry. |
| Murphy, William Barton | Owensboro | Daviess. |
| Rader, Roy Edward | Annville | Jackson. |
| Riedel, Gus | Holt | Breckinridge. |
| Ryan, Charles Obie | Monticello | Wayne. |
| Scott, George Thomas | Earles | Muhlenberg. |
| Schultz, Oscar Lewis | Narrows | Ohio. |
| Smith, George Kendall | Lewisport | Hancock. |
| Toy, Elliott | Henderson | Henderson. |
| Vaughn, Frank F | Cannel City | Morgan. |

FOR THE STATE CERTIFICATE.

| | | |
|---|---|---|
| Acton, Lula May | Sulphur Springs | Ohio. |
| Arnold, Emma Gentry | Morgan | Pendleton. |

| | | |
|---|---|---|
| Daniel, Stella Melcenia | Olaton | Ohio. |
| Davis, Henry Arnold | Maysville | Mason. |
| De Bord, Vira Crawford | Level Green | Rockcastle. |
| Elliott, Clarence | Humphrey | Casey. |
| Gambill, Henry Hubert | Cannel City | Morgan. |
| Goins, Charles | Manchester | Clay. |
| Gregory, Lulie Harris | Eminence | Henry. |
| Harl, Bevvie | Owensboro | Daviess. |
| Hayes, Mary Lena | Westview | Breckinridge. |
| Hill, Minnie May | Smithfield | Henry. |
| Holton, Harry Calvin | Falmouth | Pendleton. |
| Hounchell, Francis Marion | Manchester | Clay. |
| Hoskins, Bess | Lakeville | Magoffin. |
| Million, Jackson Egbert | Richmond | Madison. |
| Myers, John | Earlington | Hopkins. |
| Scott, May | Bryantsville | Garrard. |
| Stoy, Anna Elizabeth | Leitchffeld | Grayson. |
| Todd, Amanda | Irvine | Estill. |
| Wethington, Mary Hortense | West Louisville | Daviess. |

FOR THE COUNTY CERTIFICATE.

| | | |
|---|---|---|
| Arnold, Raymond Risk | Morgan | Pendleton. |
| Arnold, Mattie Pauline | Bryantsville | Garrard. |
| Ashcraft, Stella | Irvine | Estill. |
| Austin, Lillian | Paris | Bourbon. |
| Bishop, Walter Francis | Falmouth | Pendleton. |
| Boyce, Charles David | Williamstown | Grant. |
| Bowman, Harriett Elizabeth | Porter | Scott. |
| Bush, William Tribble | Waco | Madison. |
| Bush, Fannie Wilson | Waco | Madison. |
| Chipman, Battie | Williamstown | Grant. |
| Duvall, Walter Jilson | Savage | Clinton. |
| Freeman, Stella Mae | Trinity | Lewis. |
| Calbraith, Freeman | Brooksville | Bracken. |
| Glass, Howard | Beechwood | Owen. |
| Hoagland, Joseph Thomas | Taffy | Ohio. |
| Hughes, Bessie | Edenton | Madison. |
| Johnson, Cora Sudie | Hazard | Perry. |
| Johnson, Henry Houston | Leadington | Elliott. |
| Jones, James Black | Harlan | Harlan. |
| Kirk, Theodora Tilton | Philpot | Daviess. |
| Klein, George William | Kenton | Kenton. |
| Littlepage, Cecil | Chesley | Hopkins. |
| Lykens, Jesse Blaine | Petersville | Lewis. |
| Messer, Lyda Margaret | Vale | Rowan. |
| Moore, Terah | Shelby | Boyle. |
| Peratt, William Hunt | Hilltop | Fleming. |

| | | |
|---|---|---|
| Pickerell, Claude Ignatius | Scythia | Daviess. |
| Pierce, George Bonaparte | Bronston | Pulaski. |
| Powell, Lloyd Henry | Weldon | Meade. |
| Ramsay, Bartam Logan | Palace | Wayne. |
| Shuttles, Mary Stella | Junction City | Boyle. |
| Sievers, Willie Newton | Nancy | Pulaski. |
| Sparks, Alfred Burkett | Noah | Lewis. |
| Staples, Virginia Ruth | Concordia | Meade. |
| Starks, Emma Cooper | South Park | Bullitt. |
| Taylor, John | Pineville | Bell. |
| Wallace, Daniel Frank | Irvine | Estill. |
| White, Charles Griffin | Irvine | Estill. |
| White, John Owen | Tartar | Adair. |
| Whitfield, Nellie Herbert | Lexington | Fayette. |

## THE ACADEMY.

### SECOND YEAR STUDENTS.

| | |
|---|---|
| Alcorn, John Griffin Carlisle | Hustonville. |
| Austin, Curtis Dennis | Bagdad. |
| Ballard, Joseph Hogan | Bryantsville. |
| Barbee, Richard Carroll | Lexington. |
| Beaumont, Arthur Bishop | Mayfield. |
| Bennett, Edgar | Irvington. |
| Bewlay, Willard Crawford | Lexington. |
| Bowden, Aberdeen Orlando | Sedalia. |
| Bowman, Charles Francis | Lexington. |
| Cartmell, James Emmet | Elizaville. |
| Chisholm, Otha Balfour | Acton. |
| Coons, William Lester | Lexington. |
| Cox, William Floyd | Harlan. |
| Creekmore, Ross Addison | Lexington. |
| Crosthwaite, John Scarce | Lexington. |
| Dohoney, Turner Merritt | Lebanon. |
| Dunn, Thomas English | Marcellus. |
| Elam, Arthur Matthew | Ashland. |
| Ellis, Cecil Byrnes | Treacy. |
| Erdman, William Kenney | Lexington. |
| Garvin, Cecil Clement | Olive Hill. |
| Greathouse, William McCoy | Hawesville. |
| Greathouse, William Wesley | Pinckard. |
| Hamilton, John Kahos | Kansas City, Mo. |
| Hardesty, Lizzie Belle | Muir. |
| Harris, William Robert | Union City. |
| House, Charles Bland | Manchester. |
| Hudgins, Thomas Frederick | Olive Hill. |

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|---|---|
| Hudson, Halcomb | Lexington. |
| Jackson, Samuel Texas | Clinton. |
| Kearney, Daniel Anthony | Donerail. |
| Lyddan, Michael Henry | Webster. |
| Mastin, James Edward | Faywood. |
| McCutcheon, Jesse Robert | Beattyville. |
| Merriss, Bernie Dale | Lexington. |
| Neblett, Patrick Henry | Turner's Sta. |
| Riggs, Schulty | Calhoun. |
| Scherffius, Frederick Fanon | Lynnville. |
| Shannon, Margaret Martin | Lexington. |
| Shemwell, Henry Allen | Birdsville. |
| Simmons, Arnold | Richmond. |
| Simmons, James McCreary | Richmond. |
| Smith, Frank Rayburn | Adairsville. |
| Stackhouse, William Owsley | Lexington. |
| Veal, Guy Roscoe | Vealsburg. |
| Wallace, Leonard DeLong | Lexington. |
| Waters, Lawrence Brown | Middletown. |
| Wells, Emery | Lexington. |
| White, Beverly Pryor | Lexington. |
| White, Octo | Lexington. |
| Williams, Bryon Demetrius | Crofton. |
| Worthington, Elmer Francis | Morgan. |
| Yankey, Andrew George | Springfield. |

### FIRST YEAR STUDENTS.

| | |
|---|---|
| Atkins, Robert Ryland | Lexington. |
| Barnes, Herbert Caldwell | Ft. Thomas. |
| Bodkin, Jesse Thomas | Bardwell. |
| Cabrera, Peter Rafael | Managua, Nic. |
| Cram, Royalston Haywood | Morgan. |
| Cress, Herbert Clyde | Monticello. |
| Croley, John William | Bryant's Sta. |
| Dimock, Chester Arthur | Boston, Mass. |
| Durham, Hardy Britton | Lexington. |
| Dwelly, Renel Malcolm | Lexington. |
| Glass, Rhoda Virginia | Lexington. |
| Glaze, Jesse L | Lexington. |
| Goodwin, Docia Baker | Cerulean. |
| Goodwin, George Early | Lexington. |
| Greathouse, Joseph Felix | Pinckard. |
| Hart, George Denny | Cleveland. |
| Hieronymus, James Burrows | Monica. |
| Jacobs, Silas | Powersville. |
| James, Thomas Council | Leitchfield. |
| Johnson, Cora | Chavies. |

| | |
|---|---|
| Johnson, John Elliott Cooper | Tallega. |
| Johnston, Albert Edward | Aurora, Mo. |
| Jones, Elbert Raymond | London. |
| Kelly, Lucia Fairfax | Lexington. |
| Kinkead, Shelby | Lexington. |
| Litsey, Richard Roy | Cox's Creek. |
| Long, Luther Alexander | Bagdad. |
| Miller, Humphrey | New Hope. |
| Mills, Grover Cleveland | Kenton. |
| Mosby, William Eugene | Bardwell. |
| Nunnelley, Samuel Philip | Lexington. |
| Payne, Howard | Cold Spring. |
| Perkins, Charles Fred | Wheatley. |
| Rankins, Grover Cleveland | Mt. Olivet. |
| Reid, Eleanora | Edmondton. |
| Sanders, Hugh Berkley | Kirkwood. |
| Smith, Guy Warren | Muir. |
| Smith, Hal Walker | Henderson. |
| Staples, Frederick William | Lexington. |
| Swope, William Morgan | East Hickman. |
| Taylor, Creed Lyle | Harrodsburg. |
| Tuttle, James Newton | Spears. |
| Wakefield, Joseph Morry | Wakefield. |
| White, Robert Roy | Manchester. |
| Wickersham, John Thomas | Lebanon Junc. |
| Willmott, Curtis Simeon | Lexington. |

## STUDENTS OF THE SUMMER SCHOOL.

### I. IN THE NORMAL SCHOOL.

| | | |
|---|---|---|
| Arnett, Richard Hood | Troy | Wosdford. |
| Averitt, Richard Garland | Milton | Trimble. |
| Bruce, Eva Lena | Winchester | Clark. |
| Fightmaster, Earl | Sadieville | Harrison. |
| Givens, Sallie Tevis | Middlesboro | Bell. |
| Gregory, Ella | Cloverport | Breckinridge. |
| Hardesty, Katie | Muir | Fayette. |
| Hargett, Andrew Jackson | Augusta | Bracken. |
| Henry, Maude | Falmouth | Pendleton. |
| Hensley, Eula | Hardinsburg | Breckinridge. |
| Hoffmeier, Elizabeth | Ludlow | Kenton. |
| Jackson, Willie | Hopkinsville | Christian. |
| Jarboe, Mary | Cloverport | Breckinridge. |
| Livers, Maude | Samuels | Nelson. |
| Long, Elizabeth | Falmouth | Pendleton. |
| McHargue, Barbara Susan | Morris | Minnesota. |

| | | |
|---|---|---|
| *McHargue, James Spencer | Boreing | Laurel. |
| McKee, Hugh Crockett | Frankfort | Franklin. |
| Miller, Frances | Covington | Kenton. |
| Moore, Alice | Lexington | Fayette. |
| Munday, Sally | Winchester | Clarke. |
| Saxton, Willie | Lexington | Fayette. |
| *Schoene, Charles Edgar | Henderson | Henderson. |
| Thurman, Rice | West Point | Hardin. |
| Tyler, William Tecumseh | Campton | Wolfe. |
| Van Gorder, Nellie | Middlesboro | Bell. |
| Vice, Elza Curtis | Williamstown | Grant. |
| Wroe, Edmund | Cloverport | Breckinridge. |

### 2. IN MECHANIC ARTS.

| | |
|---|---|
| Arnold, L. L | Bagdad. |
| Bird, R | Lexington. |
| Bryan, D. B | Lexington. |
| Dietrich, K. L | Hopkinsville. |
| DuValle, R. P | Stamping Ground. |
| Edwards, D | Cincinnati, O. |
| Falley, C. B | Terre Haute, Ind. |
| Forbes, J. M | Hopkinsville. |
| Kinkead, D. C | Lexington. |
| Muncy, V. E | Lexington. |
| Riefkin, P | Newport. |
| Samuels, R. L | Maysville. |
| Thomas, M. F | Stillwater, Ok. |
| Trice, J. B | Hopkinsville. |
| Yerkes, L | Lexington. |
| Darnall, F. K | Helena. |

### 3. IN PHYSICS.

| | |
|---|---|
| Caywood, C. P | Ewing. |
| Forbes, J. M | Hopkinsville. |
| Grady, W. H | Trenton. |
| Powell, M. W | Hickman. |
| Prather, H. L | State Line. |
| Riefkin, P | Newport. |
| Shannon, P. F | Lexington. |
| Steele, A. W. | Yarnallton. |

### 4. IN CHEMISTRY.

| | |
|---|---|
| Dodd, Minnie Lee | Louisville. |
| McClelland, Mary | Lexington. |
| McHargue, James Spencer | Boreing. |
| Woerner, Emma Josephine | Louisville. |

*Students also of the College.

## 5. IN LIBERAL ARTS.

### COLLEGE STUDENTS.

Anderson, Lee ........ Lexington.
Bryan, Ruth Mitchell ........ Lexington.
Buchanan, Allie Stout ........ Payne's Depot.
Dodd, Minnie Lee ........ Louisville.
Drake, Jimmie ........ Lexington.
Elam, Shelby Smith ........ Elam.
Estill, David Chenault ........ Lexington.
Forbes, James ........ Hopkinsville.
Goodwin, William Ingram ........ Lexington.
Hardin, Guy Aud ........ Brandenburg.
Hudson, William Edward ........ Godfrey.
Jones, Sadocia Connellee ........ Porter.
Lewis, Leo Logan ........ Lexington.
Mahan, Charles Alfred ........ Hyattsville.
Mahoney, Elizabeth Margaret ........ Lexington.
Mathis Charles Brothers ........ Lexington.
Nuchols, Amanda Jane ........ Lexington.
Phillips, Marie Ingram ........ Lexington.
Rodes, Allen Higgins ........ Lexington.
Scearce, James Boyd ........ Lexington.
Schoene, William Jay ........ Henderson.
Steele, Arthur Winslow ........ Yarnallton.
Taylor, Hugh Wilbur ........ Lewisport.
Terrill, Robert Craig ........ Bedford.
Walsh, Robert Bright ........ Boyd.
Weaver, Walter Simeon ........ Bronston.
Woerner, Emma Josephine ........ Louisville.

### ACADEMY STUDENTS.

Barbee, George Read ........ Lexington.
Barbee, Richard Carroll ........ Lexington.
Bean, Harry Campbell ........ Lexington.
Bean, Louis Vimont ........ Lexington.
Cabrera, Peter ........ Managua, Nic.
Clay, Roby Wornall ........ Lexington.
Coons, William Lester ........ Montrose.
Dean, Willis Johnson ........ Owensboro.
Fields, Melvin Green ........ Lexington.
Fried, Sienna Katherine ........ Lexington
House, Charles Bland ........ Manchester.
Hutchcraft, David Keller ........ Lexington.
Kirk, Estill ........ Philpot.
McClellan, Mary ........ Lexington.
McCutcheon, Jesse Robert ........ Beattyville.

McKee, Hugh ........................................................Frankfort.
McNamara, William Ignatius........................... .........Lexington.
Proctor, Bennett McCreary .... ....... . . . .... ............... Lexington.
Simpson, Lawrence ................................................Avon.
Van Meter, Margaret Lewis............. .......... ........ ......Lexington.
Wegner, Frank August......... .............. ...................... Lexington.
White, Beverly Pryor ............... ... ........ . ................Lexington.
White, Octo ........ .............. .................................. ...Lexington.

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## SUMMARY.

| Collegiate Students. | Scientific. | Classical. | Civ. Eng. | Mech. Eng. | Min. Eng. | Normal. | Agricult. | Class-Totals. |
|---|---|---|---|---|---|---|---|---|
| Post-Graduates .................... | 10 | 8 | .. | 15 | 1 | .. | 1 | 35 |
| Seniors ........................... | 8 | 10 | 11 | 29 | 2 | .. | 4 | 64 |
| Juniors............................ | 12 | 16 | 12 | 34 | 2 | 2 | 3 | 81 |
| Sophomores......................... | 8 | 14 | 31 | 38 | | 3 | 7 | 100 |
| Freshmen .......................... | 19 | 26 | 21 | 56 | 2 | 5 | 3 | 132 |
| Department Totals.......... | 57 | 74 | 75 | 172 | 7 | 10 | 18 | 412 |

| | |
|---|---|
| Collegiate students ...................... | 412 |
| Not regularly classified .................. | 1 |
| Normal students ......................... | 87 |
| Students of the Academy............... | 99 |
| Students of the Summer Schools ....... | 106 |
| Total.......................... | 705 |

# REGULATIONS.

### PUBLIC EXERCISES.

All exercises assigned for commencement or any other public occasion must be submitted to the President for approval at least one week before the time for the performance; and, if any student shall deliver an address, or part of an address, which has not been approved by the President, his diploma and his degree, if any, has been awarded, may be withheld.

### TRAVELING EXPENSES OF STUDENTS.

By the terms of the recent legislation upon the Agricultural and Mechanical College of Kentucky, a county appointee is entitled to have his traveling expenses from his home to the College and return paid by the College on the following conditions:

1st. He must be appointed according to law, a copy of which is in the hands of each County Superintendent of Schools.

2d He must travel from home to the College by the shortest, least expensive, and the most expeditious route, and take receipts for all necessary expenses of travel, depositing the same, upon arrival, with the President of the College.

3d. He must present himself for matriculation within one week after the beginning of the fall term of the collegiate year.

4th. He must bring a certificate of good moral character, signed by two or more well-known and responsible citizens of his county.

5th. He must pass creditably the entrance examination required for admission.

6th. He must remain a student of the College for ten consecutive months, or one collegiate year.

7th. He must maintain during the collegiate year a good moral character, and such class standing as will enable him to pass all final examinations.

8th. He must sign a declaration at the end of the collegiate year that he has not knowingly violated any of the regulations involving his moral character as a student, nor been a party directly or indirectly to the injury of property on the College grounds or in the College buildings.

If at the end of the collegiate year the foregoing conditions have been complied with, the President of the College shall certify the fact to the Treasurer of the College, who, upon said certificates as vouchers shall pay to the appointee the amount shown by the receipts aforesaid, and in addition thereto the sum for discharging the necessary expenses to be incurred in returning home.

### COLLEGE EXPENSES.

The necessary expenses of a student while at College need not exceed the following estimates. As a rule the less pocket-money allowed by parents or guardians, the better it is for the pupil. When supplies of pocket-money

are kept short the opportunity for contracting vicious habits is correspondingly diminished. Students should not be allowed by their parents to create any debts. All moneys intended for the use of the students should be deposited with the Commandant.

For a county appointee, occupying a room in the dormitory, the necessary expenses are as follows :

| | |
|---|---|
| Tuition free | $00 00 |
| Matriculation free | 00 00 |
| Gymnasium free | 00 00 |
| Room rent free, | 00 00 |
| Use of furniture, | 2 50 |
| Washing, about | 10 00 |
| Uniform, | 16 00 |
| Books, about | 10 00 |
| Total | $38 50 |

Board in clubs, $2 per week ; in families, $3 to $4. For students not county appointees the necessary expenses are :

| | |
|---|---|
| Tuition for Mechanical, Civil, Electrical and Mining Engineering, | $40 00 |
| Tuition for Classical, Scientific and Normal School Courses, | 25 00 |
| Matriculation fee, | 5 00 |
| Gymnasium fee, | 5 00 |
| For each laboratory, fee | 5 00 |
| Washing, about | 10 00 |
| Room and furniture, | 6 50 |
| Uniform, | 16 00 |
| Books, about | 10 00 |

Board in clubs, about $2.00 per week ; in families, $3 to $4. All who occupy rooms in dormitories make a deposit of $5 to cover damage done during their occupancy. This is refunded at the close of the year, less the amount of damage assessed against the depositor.

Board and lodging are provided in Patterson Hall for young women, at $3 per week, they furnishing their own bed clothes and towels. This handsome three-story building, a fourth of a mile from the college, can accommodate 125 students.

## DIPLOMA.

By order of the Board of Trustees a fee of $5 will hereafter be charged for each diploma issued by the College.

## FREE TUITION, BENEFICIARIES.

Each Legislative Representative District is allowed to send, on competitive examination, *one properly prepared student* each year to this College, free of charge for tuition.

[A statement for the guidance of County Superintendents : 1. If the county forms one or more than one Legislative Representative District, each district is entitled to keep four students in the College and four in the Normal School free of tuition.

2. If a Legislative Representative District embraces more than one country, each county is entitled to keep four students in the College and four in the Normal School free of tuition.]

Beneficiaries are appointed on competitive examination. A Board of Examiners is appointed for this purpose by the County Superintendent of common schools. The results of examination are reported to the Superintendent; who from the data thus furnished selects the appointee. Examinations are made upon subjects transmitted to the County Superintendent by the Faculty of the College. One oppointment is made each year.

Appointments are made by the County Superintendent between the first day of June and the first day of August of each year. Appointments when made should be immediately certified to the President of the College.

Appointments for the College proper, viz., the Agricultural, Mechanical Engineering, Civil Engineering, Scientific, Classical, and Normal Collegiate courses, are all valid for the term of years necessary to complete the course of study in which the appointee matriculates. This includes the course in the Academy.

It follows from the above that a county which makes its appointments regularly according to law will have for the session of 1901-2 one appointment to the College; for the session of 1902-3 two uppointees; for the session of 1903-4 three appointees; for the session of 1904-5 four appointees. When the first appointee completes his course, or ceases to be a student, another appointee takes his place. When the quota of a county is full it will have at least four appointees in regular attendance.

Each appointee is required to pass an entrance examination at the College on the subjects comprising all that is embraced in Arithmetic, English Grammar, Geography, and United States History in the common school course.

All persons are eligible between the ages of fourteen and twenty-four who have completed the common school course—preference being given to young men or women whose means are limited, to aid whom this provision is especially intended.

Any person not an appointee may enter the College on payment of fees, but no one who is not an appointee receives traveling expenses or is exempt from the payment of fees

### APPOINTEES TO THE NORMAL COURSE.

The law makes provision for the appointment of four teachers, or persons preparing to teach, each year. Appointments may be made and certified to the President of the College between the first day of July and the thirty-first day of December of each year.

Appointments to the Normal School are tenable for one year.

Applicants for appointments are examined by a Board of Examiners appointed by the County Superintendent on subjects transmitted by the Faculty, viz.: upon Arithmetic, English Grammar, United States History, and Geography. They should not be less than seventeen years of age. They are also required to pass an extrance examination at the College. They must likewise bring certificates of good moral character.

Matriculates of the Normal Department will be required to sign an obligation to teach in the Common Schools of Kentucky for as many months as they receive for tuition.

## SPECIAL COURSES OF STUDY.

Special courses of study are not provided for in the Academy, the Normal School, or the College proper; provided, however, that persons who have passed the age of twenty-four years, the limit below which appointments as beneficiaries under the law must be made, may under certain conditions be allowed to pursue selected studies without matriculating in one of the regular courses of the College.

## CHANGE OF CLASSIFICATION.

No student shall be allowed to change his or her course of study from one department of the College to another, until he or she shall have completed and passed a satisfactory examination on each subject hitherto studied in the department of which he or she is a matriculate; and no change of courses shall be permitted during the current year.

## ACCREDITED SCHOOLS.

Schools, whether public or private, may be accredited in accordance with a resolution of the Faculty providing that graduates of these may be exempted from entrance examinations to the College when the heads of these schools have complied with certain conditions.

Further, the Board of Trustees have made an annual award of a free scholarship to the pupil in each accredited school who has completed the certified course with the highest class standing. This scholarship entitles the recipient to free tuition. If, in addition, the holder of a scholarship obtains the "County Appointment," he is entitled to free room in one of the dormitories and free traveling expenses.

A revised list of these schools is appended:

### PUBLIC HIGH SCHOOLS.

Ashland, J. C. Crabbe, Superintendent.
Augusta, J. R. Sterrett, Superintendent.
Bellevue, John Maddox, Superintendent.
Carlisle, W. F. Ramey, Superintendent.
Carrollton, B. F, Gabby, Superintendent.
Catlettsburg, M. P. Helm, Superintendent.
Corydon, Barksdale Hamlet, Superintendent.
Covington, Chas. Merry, Superintendent.
Cynthiana, C. A. Leonard, Superintendent.
Dayton, ——— ———, Superintendent.
Dixon, S. G. Boyd, Superintendent.
Elizabethtown, E. E. Olcott, Superintendent.
Elkton, Henry L. Trimble, Superintendent.
Eminence, J. C. Gordon, Superintendent.
Falmouth, E. B. Buffington, Superintendent.
Finchville, B. A. Logan, Superintendent,
Flemingsburg, T. A. Luman, Superintendent.
Frankfort, Hugh Crockett, Superintendent.
Fulton, J. C. Cheek, Superintendent.
Greenup, George W. Chapman, Superintendent.
Greenville, W. O. Belcher, Superintendent.
Harrodsburg, C. W. Bell, Superintendent.
Henderson, Livingston McCartney, Superintendent.

Hickman, A. R. Boone, Superintendent.
Hopkinsville, J. B. Taylor, Superintendent.
Horse Cave, Moses E. Wood, Superintendent.
Kenilworth, (Ill.) Edward Manlav, Superintendent.
Lancaster, J. E. Mannix, Superintendent.
Lawrenceburg, H. V. Bell Superintendent.
Lexington, M. A. Cassidy, Superintendent.
Louisville, E. H. Marks, Superintendent.
Female High School, W. H. Bartholomew, Principal.
Male High School, R. P. Halleck, Principal.
Manual Training High School, E. P. Chapin, Principal.
Ludlow, Frank Appel, Superintendent.
Marion, Charles Evans, Superintendent.
Mayslick, W. M. Chandler, Superintendent.
Maysville, ——— Clinger, Superintendent.
Middlesboro, M. O. Winfrey, Superintendent.
Midway, W. R. Eubank, Superintendent.
Morganfield, A. C. Burton, Superintendent.
Mt. Sterling, H. M. Gunn, Superintendent.
Newport, John Burk, Superintendent.
Nicholasville, R. G. Lowrey, Superintendent.
Orange (N. J.), W. M. Swingle, Superintendent.
Owensboro, McHenry Rhoads, Superintendent.
Owenton, W. E. Williams, Superintendent.
Paducah, C. M. Lieb, Superintendent.
Paris, J. A. Sharon, Superintendent.
Pembroke, C. E. Dudley, Superintendent,
Richmond, Caldwell High School, W. H. Brock, Superin'dent.
Somerset, J. P. W. Brouse, Superintendent.
Versailles, W. F. Pate, Superintendent.
West Point, Miss Rice Thurman, Superintendent.
Williamstown, W. G. Welborn, Superintendent.
Winchester, R. M. Shipp, Superintendent.

### PRIVATE ACADEMIES, COLLEGIATE INSTITUTES.

Auburn, Auburn Seminary, Charles B. Bates, Principal.
Bagdad, Shelby Institute, Misses Scarce, Principals.
Bardstown, Nelson Normal High School, E. H. Crawford, Principal.
Campbellsburg, High School, J. W. Pearcy, Principal.
Cynthiana, Classical School, Mr. Selin, Principal.
Danville (Va.), Military Institute, Campbell and Snyder, Principals.
Elkton, Vanderbilt Training School, J. H. Harrison, Principal.
Fulton, Carr Institute, T. N. Wells, Principal.
Harrodsburg Academy, W. W. Ensminger, Principal.
Hartford College and Business Institute, L. N. Gray, President.
Hazel Green, Academy, Wm. H. Cord, Principal.
Hodgenville, Kenyon College, J. C. Pirtle, President.
Jetts, Academy, Mrs. Mary Crutcher, Principal.
Knoxville, (Tenn.), Baker-Himel School, Norman H. Pittman, Principal.
Leitchfield, High School and Business Institute, W. C. Losey, Principal.
Lexington, Private School, Miss Ella Williams, Principal.
Lexington, Private School, Miss Lucy S. Collier, Principal.
Lexington, Alleghan Academy, A. N. Gordon, Principal.
Louisville, St. Xavier's College, Bro. James, Principal.
Louisville, University School, W. H. Tharp, Head Master.
Louisville, School for Boys, Davenport and Patterson, Principals.
Maysville, Private School, Fannie I. Gordon, Principal.

Middleburg, Normal College, J. S. Lawhorn, Principal.
Millersburg, Military Institute. C. M. Best, Principal.
Mt. Sterling, Goodwin's High School, M. J. Goodwin, Principal.
Nicholasville, Jessamine Institnte, ——— ———, Principal.
Nicholasville, Sehool for Boys, T. B. Threlkeld, Principal.
Richmond, Madison Institute, J. W. McGarvey, Principal.
Stanford, ——— ———, Principal.
Stanford, Male and Female Academy, O. B. Fallis, Principal.
Versailles, Training School, W. O. Vaught, Principal.
Versailles, Ashland Seminary, Miss Hogeboom, Principal.
Williamsburg, Williamsburg Institute, Dr. E. E. Wood, President.
Williamsburg, Williamsburg Academy, Prof. Hill, Principal.
Educational Department Y. M. C. A., George B. Hodge, Secretary.

Upon application, printed forms will be sent to the heads of schools who may desire to have them placed in the list of the accredited schools. These forms are to be filled out with an announcement of the courses of study and mailed to the Chairman of the Committee on Accredited Schools at the State College.

Only pupils from duly accredited schools will be admitted to the College without examination, and *they* must present a certificate from their superintendent or principal and it must bear the signature of the President of the State College.

Every pupil who completes an accredited course is entitled to a certificate attesting the fact, and heads of schools in the foregoing list will oblige the College Committee on Accredited Schools by sending promptly their recommendations for certificates and scholarships.

### MANUAL LABOR.

The work necessary for carrying on the agricultural and horticultural operations of the College is done by the students, and is paid for at rates varying from six to ten cents per hour. Its design is two-fold: to put in practice the instruction received in the class-room, and to assist students who are in need of money. The experience of this College is that of Agricultural Colleges generally—that compensated labor is not remunerative to the College.

*The College assumes no obligation to furnish students an opportunity to labor for compensation.*

Students are paid monthly for the service rendered, and apply the money as they see proper.

*No student, however, should come to this College expecting to maintain himself exclusively by compensated labor. At least seventy-five dollars per annum, exclusive of his earnings while here, should be at the command of everv student who wishes to avail himself of the advantages of the system of compensated labor.*

### CERTIFICATES OF CHARACTER.

All applicants for admisslon into any class of the College or Academy must bring satisfactory testimonials of good moral character.

### THE MONITRESS.

The young women who attend the College have assigned for their exclusive use a large and well-appointed study-room. Here, while they are not

engaged in the class rooms or in the chapel, they are under the constant and strict supervision of the Monitress, Mrs. Blackburn, who has long been connected with the College and is well qualified for her duties.

#### ENLISTMENT OF CADETS.

By a resolution of the Faculty, approved by the Board of Trustees, no cadet of the State College is allowed to enlist in the State Guards.

#### RULES OF CLASSIFICATION.

1. No student shall be considered as belonging to a given class, unless he takes at least three studies selected in that class or in a higher.

2. No student shall pass into a higher class while he has to make up studies required of him in the preceding year.

3. Students may be permitted, by the Deans of their courses and the Professors with whom they take their major studies, to register for studies not more than one year in advance of their classification.

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## CALENDAR.

### 1905.

| | |
|---|---|
| Summer Schools open | from June 5 to Aug. 25. |
| Entrance Examinations begin | Monday, Sept. 11th. |
| First Term begins | Thursday, Sept. 14th. |
| Thanksgiving | Thursday, Nov. 30th. |
| Board of Trustees meet | Tuesday, Dec. 12th. |
| Christmas Holidays begin | Friday, Dec. 22d. |

### 1906.

| | |
|---|---|
| Second Term begins | Tuesday, Jan. 2d. |
| Second Term of Academy begins | Monday, Jan 22d. |
| Washington's Birthday | Thursday, Feb. 22nd. |
| Union Society Contest | Thursday, Feb. 22nd. |
| Third Term begins | Monday, March 12th. |
| Patterson Society Contest | Monday, March 26th. |
| Final Examinations begin | Monday, May 28th. |
| Board of Trustees meet | Tuesday, June 5th. |
| Class Day | Wednesday, June 5fh. |
| Alumni Banquet | Wednesday, June 6th. |
| Commencement | Thursday, June 7th. |

# THE STATE COLLEGE SUMMER SCHOOLS

## FOR 1905.

These five Schools, which offer more than thirty courses of instruction, through text-books, lectures, and the best laboratories in the State, afford teachers, college students and those who are preparing for college, a rare opportunity for inexpensive study.

### I. THE SCHOOL OF CHEMISTRY.

PROFESSOR KASTLE.

*Courses Offered*—Historical and Theoretical Chemistry, taught by lectures and recitations, and the following taught chiefly by work in the laboratory: General Inorganic Chemistry, the Chemistry of the Metals, Qualitative and Quantitative Analysis, Organic Chemistry, and Chemical Research.

The courses will begin June 12th and end July 29th. Fee, $10 for each course.

### II. THE SCHOOL OF PHYSICS.

PROFESSOR PENCE.

*Courses*—1. A course in elementary text-book Physics, with lectures and recitations, fully illustrated by experiments. 2. A course in the laboratory, as given in Gage's Physical Experiments. 3. Properly prepared students may take more advanced work, either in reading and the lecture course, or in the laboratory, work corresponding to that of the Junior or Senior year of the College in Heating, Electricity and Magnetism.

The Department has abundant apparatus and a good library.

The courses will extend from June 12th to July 21st.

Fee for course 1, $10; for course 2, $12; for both, $20.

### III. THE SCHOOL OF MECHANIC ARTS.

PROFESSORS ANDERSON AND FAIG.

Instruction will be given specially in Mechanical Drawing, Steam Engineering, Applied Electricity, Machine Design, Materials of Construction, Transmission of Force, and Shop Work.

The courses are designed for Machinists, Carpenters, Metal Workers, Engineers, Firemen, Superintendents of Electric Light Plants or of public buildings having power plants, artisans of all classes, and especially for young men who intend to take up engineering, or for high-school and other students who may wish to shorten or to lighten the work of the four years' course in college.

Students admitted without examination.

The session begins June 12th and ends Aug. 15th. Fee $25.

For full information address the Registrar,

JOHN T. FAIG, Lexington, Ky.

## IV. THE SCHOOL OF TEACHERS.

PROFESSOR MILFORD WHITE.

The Third Session will open June 7th and close July 20th.

The work is designed specially to prepare teachers for examination for the County Certificate, the State Certificate, and the State Diploma.

A special examination for the State Certificate will be held at the close of the term.

Teachers of long and successful experience will have charge of all the classes. Fee for the course $6.

For bulletin of information address the Director,

MILFORD WHITE, Lexington, Ky.

## V. THE SCHOOL OF LIBERAL ARTS.

PROFESSORS DAVIS AND JONES.

The session extends from June 5th through two terms of six weeks each.

The purpose of this School is to help students—

1. Remove conditions from their work in the College.
2. Even up work neglected through irregular classification.
3. Shorten or lighten their work in the College.
4. Prepare for the entrance examination in September.
5. Review their studies in accredited schools.

The instruction embraces —

1. The College courses in Mathematics, Astronomy, English, Greek, Latin, French, German, Spanish and History.

2. The Academy courses in all the subjects preparatory to either year of the Academy or the Freshman class of the College.

Last Summer instruction was given in all these subjects, and more than four-fifths of our students passed.

Students prepared for any college or university.

Fee for each subject, in advance, $7.50.

For bulletin of information address

J. MORTON DAVIS or T. T. JONES, Lexington, Ky.

## COLLEGE DIRECTORY.

| | Residence. | College Quarters. |
|---|---|---|
| Allen, Robert M | 251 S. Limestone | Experiment Station. |
| Anderson, F. Paul | 147 Kentucky Avenue | Mechanical Hall. |
| Averitt, Saxe D | 129 E. Maxwell | Experiment Station. |
| Blackburn, Mrs. Lucy B | 630 Central Avenue | 14, First Floor, College. |
| Brooks, John P | 231 N. Broadway | Second Floor, Mech Hall. |
| Burtt, Wilson B | Patterson Hall | Gymnasium. |
| Campbell, Walter G | 494 S. Limestone | Experiment Station. |
| Curtis, Henry E | 116 E. Maxwell | Experiment Station. |
| Davis, J. Morton | 20 Park Place | 1. Basement, College. |
| Dean, Robert H | 222 Arlington Avenue | Weather Bureau, College. |
| Dicker, Joseph | 28 Virginia Avenue | Mechanical Hall. |
| Didlake, Miss Mary L | 481 E. Main | Experiment Station. |
| Faig, John T | 750 W. Main | Mechanical Hall. |
| Frazee, D. C | 129 E. Maxwell | 13, First Floor, College. |
| Garman, Harrison | 638 S. Limestone | Experiment Station. |
| Harper, Joseph N | S. Rose Street | College Farm. |
| Hodges, Miss Harriette | Patterson Hall | 10, First Floor, College. |
| Johnson, James R | S. Rose | 6, Basement, College. |
| Jones, Theodore T | 600 S. Rose | 20, Third Floor, College. |
| Kastle, Joseph H | 301 W. High | Experiment Station. |
| Keller, George N | 659 S. Limestone | Experiment Station. |
| Kinkead, Miss Elizabeth | W. Second | Chapel. |
| LaBach, James O | 270 S. Limestone | Experiment Station. |
| Logan, J. Lewis | 402 S. Broadway | 2, Basement, College. |
| Mackenzie, A. St. Clair | Reed Hotel | 19, Second Floor, College. |
| Mathews, Clarence W | 660 S. Limestone | First Floor, Science Hall. |
| Miller, Arthur M | 609 S. Limestone | First Floor, Science Hall. |
| Milligan, Richard A | 492 S. Limestone | Mechanical Hall, rear. |
| Muncy, Victor E | 136 E. Maxwell | 18, Second Floor, College. |
| Mustaine, W. W. H | 327 S. Limestone | Gymnasium, First Floor. |
| Neville, John H | 722 W. Main | 21, Third Floor, College. |
| Norwood, Charles J | 147 E. Third | Science Hall, Third Floor. |
| Patterson, James K | President's House | 12, First Floor, College. |
| Patterson, Walter K | President's House | 17, Second Floor, College. |
| Pence, Merry Lewis | 108 Merino | 5, Basement, College. |
| Peter, Alfred M | 268 E. Maxwell | Experiment Station. |
| Pryor, Joseph W | 408 W. Third | Science Hall, Second Floor. |
| Roark, Ruric N | 628 S. Limestone | 11, First Floor, College. |
| Scherffius, William H | 149 Washington Avenue | Experiment Station. |
| Scovell, Melville A | College Farm | Experiment Station. |
| Shedd, Oliver M | 450 S. Broadway | Experiment Station. |
| Spillman, Asher G | 347 S. Mill | Second Floor, Science Hall. |
| Stout, Mrs. Florence Offutt | Versailles, Ky | Second Floor, Gymnasium. |
| Turner, Job D | 267 S. Limestone | Experiment Station. |
| Wallis, Mrs. Caroline E | | Patterson Hall. |
| Wernicke, Paul | 609 S. Limestone | 18, Second Floor, College. |
| White, James G | 158 E. Maxwell | 15, First Floor, College. |
| White, Miss Martha R | 158 E. Maxwell | 1, Basement, College. |
| White, Milford | 119 Washington Avenue | 9, First Floor, College. |
| Wilson, Alexander M | 609 S. Limestone | Mechanical Hall. |

# APPENDIX.

### Statistics of Higher Education in the United States for 1902-1903.

(From the Report of the National Commissioner of Education.)

| | |
|---|---|
| Number of students in 513 colleges and universities (The 513 include 43 schools of technology.) | 114,130 |
| In classical courses | 51,152 |
| In other culture courses | 13,605 |
| In general science | 7,397 |
| In mechanical engineering | 6,800 |
| In civil engineering | 5,278 |
| In electrical engineering | 3,652 |
| In chemical engineering | 725 |
| In mining engineering | 2,244 |
| In textile engineering | 133 |
| In sanitary engineering | 27 |
| In architecture | 558 |
| In agriculture | 3,306 |
| In household economy | 772 |
| In summer schools | 11,086 |
| Admitted to A. B. (5,614 men, 3,061 women), | 8,675 |
| Admitted to B. S. (2,801 men, 52 women), | 2,853 |
| Admitted to A. M. (1,111 men, 287 women), | 1,398 |
| Admitted to M. S. (179 men, 6 women), | 185 |
| Varieties of degrees conferred | 46 |

Number of pupils in secondary schools, public and private ........ 776,625

| | | | |
|---|---|---|---|
| In Latin | 342,988 | In chemistry | 51,750 |
| In Greek | 18,951 | In physical geography | 150,053 |
| In French | 75,736 | In geology | 21,645 |
| In German | 125,558 | In physiology | 166,650 |
| In algebra | 389,865 | In psychology | 14,896 |
| In geometry | 191.242 | In rhetoric | 303,083 |
| In trigonometry | 15,848 | in English literature | 320,297 |
| In astronomy | 14,651 | In history (not of U. S.) | 269.056 |
| In physics | 113,550 | In civics | 134.967 |

# BULLETIN

OF

# THE STATE COLLEGE OF KENTUCKY.

SERIES 3. MAY 1906. NUMBER 3.


## CATALOGUE

FOR THE FORTIETH SESSION,

1905--1906.

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# CATALOGUE

OF THE

OFFICERS, STUDIES, AND STUDENTS

OF THE

# STATE COLLEGE OF KENTUCKY,

LEXINGTON,

WITH A PART OF THE REGULATIONS,

FOR THE

SESSION ENDING JUNE 7, 1906.

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LEXINGTON:
PRESS OF JAMES M. BYRNES,
1906.

# PATTERSON HALL.

This Hall, a home for the young women of the College, is a large and handsome three-story brick structure of a hundred and fifty feet front, built on a fine site of about three acres fronting two hundred and ten feet on South Limestone Street and a line of the City electric railway. Within a quarter of a mile of the College on the south, a half mile of the Court House, the Phoenix Hotel and the Post-office on the north, and distant not more than ten minutes by rail-way from the principal churches of the City, Patterson Hall is, for all purposes, admirably located The building is heated by steam, lighted by electricity, and supplied with hydrant and cistern water. It has a front veranda of 14 by 68 feet, wide halls, a closet in every bed room, and thirteen bath rooms. With walks, drives and numerous old forest trees, the spacious front lawn, one of the most beautiful in Lexington, is an inviting place for exercise, for which ample provision has also been made in the rear lawn, with tennis court and croquet grounds, as well as in the large gymnasium

Sixty-eight commodious and well-furnished rooms afford accommodation for a hundred and twenty-two persons, for whom the careful and judicious matron will provide lodging free, and excellent board at $3 a week, the occupants furnishing their own napkins, towels, and bedding, except mattresses and pillows, and paying their laundry bills.

Built durably of stone, brick, wood and iron, and made practically fireproof; with adequate provision for safety, heat, light, ventilation, bathing and exercise, this Hall offers all the comforts and conveniences of a well-appointed home.

County appointees are first supplied with rooms, and these, by act of the Legislature, are assigned by lot.

Probably no educational institution in the South affords a more attractive home for young women; and those who are favored with a county appointment, the mode of obtaining which is set forth elsewhere in this catalogue, will find that residence at The State College is brought within the means of any young woman who earnestly desires to fit herself for a life of usefulness.

## CONTENTS.

# THE STATE COLLEGE OF KENTUCKY.

## HISTORY.

AGRICULTURAL and Mechanical Colleges in the United States owe their origin to an act of Congress entitled 'An Act Donating Public Lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts,'' approved July 2, 1862. The amount of land donated was 30,000 acres for each representative in the National Congress. Under this allotment Kentucky received 330,000 acres. Several years elapsed before the Commonwealth established an Agricultural and Mechanical College under this act. When established it was not placed upon an independent basis, but was made one of the Colleges of Kentucky University, to which institution the annual interest of the proceeds of the Congressional land grant was to be given for the purpose of carrying on its operations. The land-scrip had meanwhile been sold for fifty cents per acre, and the amount received—$165,000—invested in six per cent. Kentucky State bonds, of which the State become custodian in trust for the College.

The connection with Kentucky University continued till 1878, when the act of 1865, making it one of the Colleges of said University, was repealed; and a commission was appointed to recommend to the Legislature of 1879–80 a plan of organization for an institution, including an Agricultural and Mechanical College, such as the necessities of the Commonwealth required. The city of Lexington offered to the Commission (which was also authorized to recommend to the General Assembly the place which, all things considered, offered the best and greatest inducements for the future and permanent location of the College,) the City Park, containing fifty-two acres of land within the limits of the city, and thirty thousand dollars of city bonds for the erection of buildings. This offer the county of Fayette supplemented by twenty thousand dollars in county bonds, to be used either for the erection of buildings or for the purchase of land. The offers of the city of Lexington and the county of Fayette were accepted by the General Assembly.

By the act of incorporation and the amendments thereto, constituting the charter of the Agricultural and Mechanical College of Kentucky, liberal provision is made for educating, free of tuition, the energetic young men of the Commonwealth whose means are limited. The Normal Department, for which provision is also made, is intended to aid in building up the Common School system by furnishing properly qualified teachers. This College, with the additional departments which shall, from time to time, be opened as the means placed at the disposal of the Trustees allow, will, it is hoped, in the not distant future do a great work in advancing the educational interest of

Kentucky. Being entirely undenominational in its character, it will appeal with confidence to the people of all creeds and of no creed, and will endeavor, in strict conformity with the requirements of its organic law, to afford equal advantages to all, exclusive advantages to none. The liberality of the Commonwealth in supplementing the inadequate annual income arising from the proceeds of the land-scrip invested in State bonds, has enabled the Trustees to begin and carry on, upon a scale commensurate with the wants of our people, the operations of the institution whose management and oversight have been committed to them by the General Assembly of Kentucky.

## SCOPE OF STUDIES.

In the act of Congress making provision for the class of colleges to which the State College partly belongs, it is declared "that their leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." To the three departments of agriculture, the mechanic arts, and military science, contemplated in the act as indispensable, a Normal School has been added by the State and an Experimental Station by the United States, while liberal provision has been made for instruction in all branches of science and in the classics, so that this institution is far more than an agricultural and mechanical college, embracing, as it does, not merely the three original departments, but eighteen others.

## THE NORMAL SCHOOL.

The Normal Department of the State College exists under the authority of acts of the General Assembly approved April 23, and April 29, 1880. Section 7 of the first act briefly defines the object for which the Department was established, "a Normal Department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the College." The second act provides the necessary endowment to make the Department effective.

Ten years ago, in order to prepare young men and women for doing the highest work in their chosen profession, the Department of Pedagogy was established, with a four years' collegiate course, offering Pedagogy as a major study. The attendance upon this course has steadily increased, and the work done has been of a high order.

## THE KENTUCKY EXPERIMENT STATION.

The Agricultural Experiment Station of the State College of Kentucky was established by the Executive Committee of the Board of Trustees in September 1885, when the Department was organized and a Director appointed. In 1886 the Station was recognized and named by the General Assembly, and in 1887 it became the beneficiary of the first annual appro-

priation of $15,000 under the Hatch act providing for the establishment of Agricultural Experiment Stations in the several States and Territories.

The work of the Station is directed to two objects: 1. To a constant succession of experiments made by specialists, in order to learn what applications of science will insure the best returns from the farm, the garden, the orchard, the vineyard, the stockyard, and the dairy. 2. To the publication of bulletins announcing such results of the experiments as are found to be valuable to those of the people of Kentucky who seek profit from any one of those prime sources of wealth—the soil, the flock, and the herd.

Results of experiments have been published in seventeen annual reports and one hundred and twenty-six bulletins, and general appreciation of their utility is shown in the fact that, while no bulletin is sent except upon application for it, the mailing list of the Station contains about 10,000 names, and is ever increasing.

With an ample endowment, a large and commodious building planned for the purpose, adequate apparatus, a good experimental farm conveniently situated, and a staff of fifteen scientists engaged in seven divisions of research and in correspondence with other stations, the Kentucky Experiment Station is not only an important adjunct to the College in the education of students for the leading industrial pursuits, but, directly or indirectly, through the wide and continual diffusion of knowledge for the benefit of so large a proportion of our population, it is bound to be extremely useful to the Commonwealth at large.

## LOCATION.

The State College of Kentucky is established in the Old City Park, just within the southern boundary of Lexington and near the Cincinnati Southern Railway. The site is elevated and commands a good view of much of the city and of the surrounding country

Lexington, now a growing city of thirty-odd thousand inhabitants, is in the heart of the far-famed Bluegrass region, a region distinguished for fertility and healthfulness, wealth and beauty. Numerous schools and churches, an intelligent and refined population, well paved streets, handsome buildings, extensive water works, and an unsurpassed system of street electric railways make Lexington attractive as a seat of learning and place of residence, while the splendid stock farms scattered over the large body of fertile country around it afford advantages hardly equaled elsewhere for the student who desires to become familiar with the best breeds of horses, cattle, sheep, and swine in America. Moreover, with railroads diverging in seven directions, Lexington is the railroad center of Kentucky, and in direct connection with Louisville, Cincinnati, Maysville, Huntington, and Chattanooga, and with more than seventy counties of the Commonwealth And when to the electric railways now in operation to Georgetown, Paris, and Versailles, those projected to Winchester, Richmond, and Nicholasville shall be added, the hourly trains of these six roads will enable students residing near them to attend the College conveniently from their homes as far as twenty miles away.

## GROUNDS.

The campus of the College consists of fifty-two acres of land, located within the corporate limits of Lexington. The South Limestone electric car line extends along the western border of the campus, affording opportunity to reach in a few minutes any part of the city. The campus is laid out in walks, drives, and lawns, and is planted with a choice variety of native and exotic trees and shrubs, to which additions are constantly being made. A portion of the land has recently been reserved for a botanical garden, in which will be grown the most desirable native plants, with a view to testing their adaptability to cultivation and to giving increased facilities to students taking agricultural and biological courses. Two and a half acres, forming the northeast portion of the campus, inclosed and provided with a grand stand, are devoted to the field sports of the students.

About three-quarters of a mile south of the campus, on the Nicholasville pike, an extension of South Limestone street, is the Experiment Station Farm, consisting of about two hundred and three acres. Here the field experiments of the Station are conducted, and students have opportunities to witness tests of varieties of field crops, dairy tests, fertilizer tests, fruit-spraying tests; in short, all the scientific experimentation of a thoroughly equipped and organized Station. The front of the farm is pasture and orchard. The back portion is divided off into two hundred one-tenth acre plots, for convenience in making crop tests.

## BUILDINGS.

*The Main Building.*—This is a structure of stone and brick, 140 feet long and 68 feet in width. It contains the office of the President and of the Business Agent, and on the third floor, counting the basement floor as one, is the chapel, in which each day the students and the Faculty meet for worship, and in which are held public gatherings and such other meetings as bring together the entire student body. The remaining space in this building is occupied by recitation rooms.

*The Old Station Building.*—This handsome structure is well planned for the object for which it was built. It is seventy feet in length and fifty-four feet in width, with a tower projection in front, and an octagonal projection eighteen by eighteen on the north side. The building is two stories high, upon a basement eleven feet from floor to ceiling. The main entrance is on the first floor, on the west side of the building, through an archway fifteen feet wide.

This building is henceforth to be devoted exclusively to the Department of Chemistry.

*Mechanical Hall.*—This building covers altogether an area of about 20,000 square feet, is constructed of stone and pressed brick, and is well furnished with machinery and appliances for work in Mechanical Engineering

*The Dormitories.*—The two large dormitories on the campus afford lodgings for the students who wish to lessen expense in this direction. Other buildings on the campus are a brick dwelling for the President and a cottage occupied by the Commandant.

*Science Hall* —This hall, built during the year 1897 for the departments of Natural Science, is 96 x 97 feet, of pressed brick, trimmed with Bowling Green stone The wide halls, the numerous and spacious lecture rooms, laboratories and offices in its three stories are conveniently arranged, well lighted, and the rooms are well furnished.

*The Farm Buildings.*—On the farm is a brick dwelling occupied by the Director of the Station, and the usual buildings for the care of tools, the protection of stock, and the like.

*The Gymnasium.*—This imposing structure of pressed brick and Bedford stone, 100 x 157 feet, with the central part three stories high, the right wing one and the left two, stands 150 feet north of the Main Building and cost $30,000.

The first floor of the central portion contains the Armory, lockers for women, and the offices of the Commandant and the Physical Director. The second floor is occupied by Alumni Hall, the Trustees' room, and a society hall. The third floor is divided into two society halls and a hall for the Y. M. C. A All these rooms are commodious and finely adapted to their purpose. The right wing, which is 48 x 95 feet, is used as a drill-room during bad weather. The basement of the left wing is set apart for baths, lockers for men, wash-stands, closets, and a swimming pool The second floor, the gymnasium proper, is equipped with the best apparatus that could be procured.

The building is finished in yellow pine, heated by steam, and lighted by electricity.

*The New Station Building.*—This house, on South Limestone, and a fourth of a mile from the campus, was completed in the winter of 1904.

The building is of two stories and the basement, of pressed brick with oolitic limestone-trimmings. The foundation is of Kentucky gray limestone, faced with broken ashlar oolitic limestone, the balustrade of terra-cotta. A large portico, with columns extending from the first floor line to the pediment on a level with the cornice, forms an attractive feature of the building. The cornice is massive, with large brackets

The general design of the building, which is 114 feet long x 60 deep, is colonial, adhering as strictly as possible to classic proportions and combinations.

*Patterson Hall.*—This large and handsome three-story structure, a home for the young women of the College, is now ready for occupancy. Pleasantly located on South Limestone street, a fourth of a mile north of the College, and on the street railway which lies along the western border of the spacious grounds; built durably of brick, stone, iron and wood, and made practically fire-proof; with long and wide porches and with a large closet in every room; with adequate provision for light, heat, ventilation and exercise, this Hall offers to 122 occupants, two in a room, everything needed for their health, safety, convenience, comfort and physical culture.

Cost of ground, building and equipment, $60,000.

## DEVELOPMENT.

The growth of the College from year to year is shown as follows:

1862. To establish and endow a college, chiefly for instruction in agriculture and the mechanic arts, an act of Congress apportioned to each State, for each of its Senators and Representatives in Congress, 30.000 acres of the public land.

1865. The General Assembly of Kentucky having accepted the State's portion under the conditions prescribed, established the Agricultural and Mechanieal College, making it one of the colleges of Kentucky University, then recently united with Transylvania University and located at Lexington, citizens of Lexington and its vicinity donating $110,000 to the Curators of the University to buy a site for the College. The General Assembly having authorized the Commissioners of the Sinking Fund to sell the 330,000 acres apportioned to Kentucky, by the mismanagement of the Commissioners' agent the State realized for its land only $165,000.

1866. The College opened with a President, four Professors, and a Commandant.

1878. Dissatisfied with the management of the College by the Curators, who were engaged in a long factional strife, the General Assembly severed the connection with the University, and appointed a commission to re-locate the College, to provide for its continuance in operation till re-located, and to prepare "a plan for a first-class University." Kentucky University claiming and retaining the former site of the College, the sole property of the latter after the severance was an income of $9,900 derived from the land grant.

1880. The City of Lexington offering the City Park of fifty-two acres as a new site for the College, and also $30,000 in bonds, and the County of Fayette offering $20,000 besides, the General Assembly ratified the selection of the site made by a majority of the commission, and located the College permanently in Lexington.

1880. To privide teachers for the Common Schools of the State and for other schools the General Assembly added to the College a Normal Department, which should admit, besides other students, one from each representative district every year free of tuition.

1880. Further to endow the College and to enable it to purchase apparatus, machinery, implements, and a library; to maintain the Normal Department, and to defray other necessary expenses, the General Assembly imposed a tax of one-half cent on each hundred dollars of the assessed value of all property in the State liable to taxation for State revenue and belonging to its white inhabitants.

1880. The Classical and Normal Departments, and the Academy added.

1882- The College Building, the First Dormitory, and the President's house completed.

1885. The Commandant's House reconstructed.

1887. To enlarge by experiments and to diffuse the knowledge of agriculture, an act of Congress established, under the direction of the Agricultural and Mechanical College in each State, an Agricultural Experiment Station, appropriating for its support $15,000 per annum.

1887. The Department of Civil Engineering established, an experimental farm of forty-eight acres purchased, and the College greenhouse built.

1889. The Experiment Station Building completed.

1890. The Second Dormitory completed.

1890. For "the more complete endowment" of Agricultural and Mechanical Colleges, an act of Congress appropriated to each State $15,000 for the year ending June 30, 1890, and the same sum with an increase of $1.000 per annum for ten years, after which the maximum of $25,000 should continue without change. Of the amount thus annually appropriated, the College receives 85 per cent. and the school of the colored people at Frankfort 15 per cent.

1891. The Department of Mechanical Engineering established.

1891. The Department of Anatomy and Physiology established.

1892. The Mechanical Building and Workshops completed.

1894. Greenhouses for the Experiment Station built.

1894. The Department of Physics established.

1895. The Annex to the Mechanical Building and the Insectarium for the Station built.

1897. The Department of Electrical Engineering established. Additions made to the Greenhouses and Insectarium.

1898. The building for Natural Science completed.

1898. Sixty-four and a half acres added to the Experimental Farm, making 113 in all.

1900. Sixty thousand dollars appropriated by the General Assembly for a Collegiate Home for Young Women, for a Gymnasium and Drill Room, and a Hall for the Y. M. C. A.

1901. Ninety acres added to the Experimental Farm, making 203 in all. The Gymnasium, the Drill Room, the Halls for the Societies and the Y. M. C. A. completed.

1901. The Department of Mining Engineering added.

1902. The School of Physical Culture added.

1902. Thirty thousand dollars additional appropriated by the General Assembly for the Young Women's College Home, making $60,000 in all.

1904. Patterson Hall, the Young Women's College Home, completed.

1904. Fifteen thousand dollars per annum appropriated by the General Assembly to defray the expenses of the College.

1905. The New Experiment Station completed.

1906. The School of Household Economy added.

*Increase of Property.*—The property of the College is estimated to be worth $800,000 more than it was in 1880.

*Increase of Courses.*—Before 1880 the College offered a single course of study leading to a degree; it now offers nine.

*Increase of Teachers.*—Before 1880 the College had six Professors; it now has seventeen Professors and thirty-six assistants.

*Increase of Students.*—The number in 1898-99 was 480, the largest till then in the history of the College; in 1903-1904 it was 732; in 1905-1906 it is about 780.

*Increase of Graduates.*—No fact more distinctly marks the growth of the College than the increase in the number of its graduates. More students have been graduated durlng the last three years than were graduated during the first thirty.

## THE STATE UNIVERSITY OF KENTUCKY.

Delaware excepted, Kentucky alone of the forty-five States enjoys the unenviable distinction of having no State University and no equivalent of one. While our State is discredited by her educational inferiority in this and other respects, and especially by her disgraceful illiteracy, it is yet encouraging to know that there is an earnest and apparently a growing demand for an institution of higher title, grander proportions and wider usefulness than the State College. During its forty years the College, with limited means and in the face of much opposition, has done a work of incalculable value. The record made by it has long ago justified its existence and now calls for its expansion ; the State has eight hundred thousand dollars invested in it ; and its advantages of location are, for Kentucky, incomparable. Not far from the center of the State ; in a region unsurpassed for health, fertility and beauty, and supporting a proud, wealthy, and intelligent people, a people moreover always distinguished for devotion to education and schools ; with ten railways, soon to be increased to thirteen, diverging from it, Lexington as the site of the State University offers attractions that are preeminent and manifold.

The glory of Wisconsin is her system of public schools headed by her magnificent University, and yet that State has fewer inhabitants if more wealth than Kentucky. In 1904 Kentucky gave her State College $36,830; Wisconsin gave her University $471,500; in 1905, $558,000.

Let us hope that we are in the dawn of a brighter day, and that we are to have a University on a grand scale, worthy of its chief benefactor, the City of Lexington, and commensurate with the pride and power of this great Commonwealth.

## FACULTY

(In the order of appointment.)

JAMES KENNEDY PATTERSON, Ph. D., LL. D., F. S. A., *President*,
*Professor of History, Political Economy, and Metaphysics.*

JAMES GARRARD WHITE, A. M.,
*Professor of Mathematics and Astronomy.*

JOHN HENRY NEVILLE, A. M., LL. D., *Vice-President*,
*Professor of Greek and Latin.*

WALTER KENNEDY PATTERSON, A. M.,
*Principal of the Academy.*

JOSEPH WILLIAM PRYOR, M D.,
*Professor of Anatomy and Physiology.*

FREDERICK PAUL ANDERSON, M. E.,
*Professor of Mechanical Engineering.*

CLARENCE WENTWORTH MATHEWS, B. S.,
*Professor of Botany, Horticulture, and Agriculture.*

ARTHUR MCQUISTON MILLER, A. M.,
*Professor of Geology and Zo-ology.*

MERRY LEWIS PENCE, M. S.,
*Professor of Physics.*

PAUL WERNICKE, Ph. D.,
*Professor of Modern Languages.*

JOHN PASCAL BROOKS, M. S.,
*Professor of Civil Engineering.*

ALEXANDER ST. CLAIR MACKENZIE, M. A., F. R. S. L.,
*Professor of English and Logic.*

CHARLES JOSEPH NORWOOD,
*Profesoor of Mining Engineering.*

JOHN THEODORE FAIG, M. E.,
*Professor of Machine Design.*

WILSON BRYANT BURTT, FIRST LIEUT. U. S. A.,
*Commandant and Professor of Military Science and Tactics*

MILFORD WHITE, B. C. E., M. S.,
*Professor of Pedagogy.*

CHASE PALMER, Ph.D.
*Professor of Chemistry*

MRS. FLORENCE OFFUTT STOUT,
W. WALTER H. MUSTAINE, B. S.,
*Directors of Physical Culture.*

MISS ISABELLA WEST MARSHALL, A. B.,
*Instructor in Domestic Science.*

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MISS ELIZABETH SHELBY KINKEAD,
*Lecturer on English Literature.*

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JOSEPH MORTON DAVIS, A. B., B. S.,
*Assistant Professor of Mathematics.*

ASHER GRAHAM SPILLMAN,
*Assistant Inspector of Mines.*

ALEXANDER MASSEY WILSON, M. E.,
*Assistant Professor of Electrical Engineering.*

JOHN JULIAN HOOPER, B. S.,
*Assistant Professor of Agriculture and Animal Husbandry.*

THEODORE TOLMAN JONES, A. M.,
*Assistant in Latin, Greek, and German.*

JAMES FRANKLIN SANDEFUR, A. M.,
*Assistant in the Academy.*

MISS MARTHA RIPPERDAN WHITE, M. S.,
*Assistant in Mathematics.*

WILLIAM SNYDER WEBB, M. S.,
*Assistant in Physics.*

LOUIS EDWARD NOLLAU, B. M. E.,
*Assistant in Drawing and Wood Shop.*

GEORGE LUCAS PADDISON, A. B.,
*Instructor in Chemistry.*

RICHARD EVANS WARREN, A. B.,
*Assistant in the Academy.*

CLARENCE WALKER HAM, B. M. E.,
*Assistant in Drawing and Shop Work.*

JAMES THOMAS COTTON NOE, A. M.,
*Assistant in the Normal School.*

LEWIS NELSON TAYLOR, B. S.,
*Assistant in the Academy.*

JOSEPH DICKER,
*Assistant in Blacksmith Shop and Foundry.*

MURRAY RANEY,
*Assistant in the Mechanical Laboratory.*

JOSEPH EVANS WARREN,
*Assistant in the Normal School.*

GORDON THURMAN,
*Engineer and Assistant in Wood Shop.*

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WILSON BRYANT BURTT, U.S. A., B. C. E.,
*Fellow Assistant in Civil Engineering.*

MISS MARGARET DONALD ERSKINE WILKIE, M. S.,
*Fellow Assistant in Botany.*

MISS SUE DOBYNS MCCANN, M. S.,
*Fellow Assistant in Zo-ology, Geology, and Entomology.*

WILLIAM BOULDEN CRUTCHFIELD, A. M.,
*Fellow Assistant in English.*

HENRY POPE, B. E. M.,
*Fellow Assistant in Mining Engineering.*

JOHN MCLEOD TURNER,
*Field Assistant in Surveying.*

BYRON MCCLELLAND,
*Lecture Assistant in Chemistry.*

JAMES SPENCER MCHARGUE,
*Laboratory Assistant in Chemistry.*

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MRS. LUCY BERRY BLACKBURN,
*Monitress.*

JOSEPH WILLIAM PRYOR, M. D.,
*Surgeon of the Battalion.*

MISS MARGARET ISADORA KING, A. B.,
*Registrar.*

DAVID C. FRAZEE,
*Business Agent.*

CLARENCE W. MATHEWS,
*Secretary of the Faculty.*

MRS. CAROLINE EMBRY WALLIS,
*Matron of Patterson Hall.*

JOHN H. NEVILLE,
*Editor of the Catalogue.*

JAMES F. SANDEFUR,
*Assistant Editor.*

## THE KENTUCKY EXPERIMENT STATION.

### BOARD OF CONTROL.



### OFFICERS.

## U. S. WEATHER BUREAU.

OBSERVER, ROBERT HENRY DEAN.

There has been established at the College by the U. S. Department of Agriculture a Station of the Weather Bureau, with first-class instrumental equipment, and working in close connection with the College and the Experiment Station. Students who are interested in the study of meteorology and kindred sciences will find at this Station of the Bureau a rare chance for special investigation, and they are welcome to such benefits as the Station affords.

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## ADMISSION.

A student is admitted to the State College in one of six ways:

I. By examination.
II. By certificate from an accredited school.
III. By certificate from the College Academy.
IV. By transfer of credits from a college or university.
V. As a special student.
VI. By certificate from the Normal School.

### 1. ADMISSION BY EXAMINATION.

For the Freshman Class students are examined on the following :

1. IN ENGLISH.—(*a*) On Advanced Grammar. Selections for analysis and parsing are arranged to test the candidate's knowledge of the structure of the language. (*b*) On Rhetoric and Composition. The candidate is required to write two essays of not less than two hundred words each, one on a subject taken from a prescribed work of some standard author, the other on a subject chosen by the candidate. The books from which subjects will be taken are : Addison's *Sir Roger de Coverly* papers; Burke's *Conciliation with the Colonies;* Coleridge's *Ancient Mariner;* Eliot's *Silas Marner;* Irving's *Life of Goldsmith;* Lowell's *Vision of Sir Launfal;* Macaulay's essay on *Addison* and *Life of Johnson;* Milton's *Lycidas*, *Comus*, *L'Allegro* and *Il Penseroso;* Scott's *Ivanhoe* and *Lady of the Lake;* Shakespeare's *Julius Cæsar*, *Macbeth* and *Merchant of Venice;* Tennyson's *Gareth and Lynette*, *Lancelot and Elaine*, *The Passing of Arthur.*

The candidate must be familiar with the plots, incidents and characters of each work, and be prepared to show his ability to write correct English. No candidate will be admitted whose work is notably deficient in a knowledge of spelling, punctuation, paragraphing, and syntax.

2. IN HISTORY.—(*a*) On Eggleston's History of the United States, or an equivalent. (*b*) On General History, in amount equivalent to Anderson's or Myers' General History.

3. IN GEOGRAPHY.—(*a*) On Advanced Descriptive, Mathematical, and Political Geography, as presented in Butler's Complete, or The Natural Advanced, Geography. (*b*) On Physical Geography, as presented by Tarr or Davis.

4. IN MATHEMATICS —(*a*) On Arithmetic. A thorough knowledge of the subject is required. (*b*) On Algebra. The student must show a thorough knowledge of the subject as presented in Wentworth's Higher Algebra, including factors, common divisors and multiples, fractions, involution, embracing the binominal theorem for positive integral exponents, evolution, theory of exponents, radicals, imaginary quantities, inequalities, equations of the first and second degrees involving one or more unknown quantities, equations solved like quadratics, simple indeterminate equations, and equations involving radicals. The student is expected to state and explain the reason for every step in his work. (*c*) On Geometry. The student must exhibit a knowledge of the subject as treated in books I to V inclusive of Beman and Smith's Geometry, including the larger part of the matter relating to triangles, parallels and parallelograms, polygons and circles, as presented in the best American text-books. The student should be able to apply the principles of Geometry to practical examples, to construct diagrams quickly and accurately. In proving a theorem or solving a problem he should be able to prove every statement made, by going back, step by step, till he rests on primary definitions and axioms.

5. IN LATIN.—On genders, declensions, conjugations, syntax, and idioms as they are treated in Smiley & Storke's Beginner's Latin Book; Viri Romæ; ten lives of Nepos; five books of Cæsar; Daniell's New Latin Composition; Creighton's History of Rome.

Strict attention must be paid to quantity and accent.

6. IN GREEK.—On genders, declensions, conjugations, accents, syntax, and idioms, as they are treated in White's Beginner's Greek Book; Moss' Greek Reader; five books of Xenophon's Anabasis; Pearson's Greek Prose Composition; Oman's History of Greece.

7. IN GERMAN.—After September 1, 1907, on Becker's Elementary German. After September 1, 1908, Harris' German Composition will be added, and proficiency in easy sight-reading required as soon as these subjects are taught in the Academy of this College.

8. IN PHYSICS.—After September 1, 1907, on High School Physics complete, as treated in some elementary text-book.

Candidates for admission to the courses in Science, Agriculture, Mechanical and Civil Engineering will be examined on 1, 2, 3, 4, 7 and 8.

Candidates for admission to the course in Pedagogy will be examined on 1, 2 (*a*), 3 (*a*), 4, 5, 7 and 8.

Candidates for admisston to the course in Classics will be examined on 1, 2 (*a*), 3 (*a*), 4, 5, 6 and 7. If French and German be substituted for Greek, 6 will be omitted.

### II. ADMISSION FROM AN ACCREDITED SCHOOL.

An applicant for admission to a class in the College who presents from the Principal or Superintendent of an accredited school a certificate that he has duly completed the courses of study prescribed for admission to that class will receive from the President of the College a permit entitling him to admission thereto without further examination.

### III. ADMISSION FROM THE COLLEGE ACADEMY.

A student who presents from the Principal of the Academy a certificate that he has properly completed either course of study set forth in the curriculum of the Academy, will be admitted to the Freshman Class of the corresponding course in the College without further examination.

### IV. ADMISSION FROM A COLLEGE OR UNIVERSITY.

An applicant for admission who has been a student of another college or of a university of respectable standing, upon presenting a certificate of his honorable dismission therefrom, may be admitted *ad eundum gradum* in this College, provided that he shall satisfy the appropriate professors that he has duly completed a course of study equivalent to that completed by the class which he proposes to enter.

### V. ADMISSION AS SPECIAL STUDENT.

A graduate of another college or of a university may enter this College at any age in order to pursue a special line of work and study, but all others must be at least twenty-four years of age, the limit below which appointments of beneficiaries under the law must be made.

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The Board of Trustees has authorized the appointment of a Board of Examiners, by whom all applicants for admission shall be examined.

Students who bring certificates of graduation from accredited schools shall present them to this Board, who will pass the students in the subjects covered by certificate, without further examination. On all other subjects they shall be examined for admission and classification.

The Board of Trustees allow the President of the College, at his discretion, to give free tuition to honor graduates of such accredited schools as properly prepare students for the College.

Applicants for admission to the Academy or the Normal School shall be examined *on all branches embraced in the Common School course as required by law*, and no one who has not passed actual examination shall be admitted to either.

Students who desire to pass from the Normal School or the Academy into the College shall be admitted on identical conditions, as set forth on pages 13, 14 and 15.

## DEPARTMENTS AND SCHOOLS.

The studies of the State College are distributed into eighteen Departments and three Schools, each in charge of a responsible head, the heads of the Departments constituting the Faculty. Arranged in chronological order the Departments and Schools are :

I. History, Political Economy, and Metaphysics.
II. Botany, Horticulture, and Agriculture.
III. The English Language and Literature.
IV. Military Science.
V. Chemistry.
VI. Mathematics and Astronomy.
VII. Modern Languages.
VIII. Greek and Latin.
IX. The Academy.
X. Pedagogy.
XI. Civil Engineering.
XII. Mechanical and Electrical Engineering.
XIII. Anatomy and Physiology.
XIV. Geology.
XV. Zoölogy.
XVI. Physics.
XVII. Entomology.
XVIII. Mining Engineering.
XIX. The Normal School.
XX. The School of Physical Culture.
XXI. The School of Domestic Science.

# COURSES OF STUDY.

## 1. DEPARTMENT OF HISTORY, POLITICAL ECONOMY, AND METAPHYSICS.

PRESIDENT PATTERSON.

The course of instruction in this Department includes an outline of Ancient, Medieval, and Modern History. Attention is given to the various forms of government, their characteristic features and points of difference; to the progress of civilization, the origin and development of parliamentary government, the rights and duties of citizenship.

In the period covered, Modern History and the History of England and of the United States occupy the most prominent place.

Walker's Science of Wealth is made the basis of instruction in Political Economy. Students are, however, made familiar with the principles upon which rest the rival doctrines of Protection and Free Trade.

The study of Mental and Moral Philosophy extends through one year. Sir William Hamilton is used as the basis of instruction in Metaphysics, and Mackenzie in Ethics. Concurrently with recitations from these authorities, the pupil is made familiar with the principles upon which rival systems of philosophy and morals are based, and the arguments by which they are maintained. Ancient and modern systems are thus brought under review, and the necessary data furnished upon which to ground intelligent opinions.

## II. DEPARTMENT OF AGRICULTURE, HORTICULTURE, AND BOTANY.

PROFESSOR MATHEWS, ASSISTANT PROFESSOR HOOPER.

This Department occupies rooms on the first floor of the Natural Science Building, including a general laboratory, a lecture room and advanced laboratory, and an instructor's office.

Each laboratory is suitably furnished with tables, water and gas fixtures, charts, etc., and the lecture room with opera chairs, a stereopticon, etc. The further equipment, both for elementary work and for the use of advanced students, is new and of the best quality, and includes an ample supply of compound and dissecting microscopes for the individual use of each student, several first-class microtomes, ovens and sterilizing apparatus, together with delicate balances and other apparatus for the study of plant physiology.

Among other facilities for study, the Department possesses a greenhouse (85 x 20 feet), giving an opportunity for the continuous study of

living plants throughout the winter months, and for experiment work in plant physiology.

The herbarium contains a nearly complete representation of the flora of Kentucky, with a considerable number of foreign exchanges. It is due primarily to the efforts of the late Dr. Robert Peter, who made a quite extensive collection of Kentucky plants about sixty years ago, and also exchanged specimens with the prominent botanists of that day, thus forming the nucleus of the present collection, which therefore possesses considerable historic value. Constant additions are now being made to the herbarium by collecting excursions over the State and by exchanges with other institutions.

The Department Library is receiving constant accessions of carefully selected books, and already contains the most important botanical, agricultural and horticultural works of reference, and these, as well as the best current literature upon these subjects, are available to students during college hours.

For the study of agriculture and horticulture, many of the appliances already mentioned are again utilized, and in addition, the complete equipment of the Experiment Station incidentally affords superior opportunities for the instruction of students.

A large dairy barn has recently been erected and is completely equipped with the most approved appliances for the care of dairy cattle and dairy products The dairy room is provided with separators, churns, and other facilities for the care of milk and the manufacture of butter and cheese.

The operations of the farm department of the Experiment Station also furnish an excellent opportunity for the study of the effects of various fertilizers, varieties of wheat, corn, and other field crops.

The college equipment in farm machinery has recently been enlarged by the addition of sulky and disk plows, subsoilers, corn planters and cultivators, drills, binders, potato diggers, and various dairy appliances.

The Horticultural Department of the Station has an excellent forcing and greenhouse plant upon the College grounds, consisting of four glass houses of the most approved methods of construction, containing 4,000 square feet of glass, in addition to hot beds and cold frames outside. These houses are run throuth the winter months in the conduct of experiments upon the culture of lettuce, radishes, tomatoes, cauliflower and other vegetables, and upon the various methods of plant propagation.

The extensive list of varieties of vegetables and fruits growing upon the Experiment Farm gives an opportunity for a comparative study of varieties rarely, if ever, found upon the ordinary farm.

The College campus contains a large number of ornamental trees and shrubs, and numerous varieties of annual and perennial flowering plants, and with other public grounds in Lexington affords ample facilities for the study of ornamental and landscape horticulture.

The general subjects comprised within the scope of this department are subdivided as follows:

## Botany.

### I. ELEMENTARY BOTANY.

SPRING TERM—This course is the equivalent of the usual high school botany and is required of all students of the Scientific, Normal, and Agricultural courses who have not completed a corresponding course in some preparatory school. It consists of a study of the elements of structural botany and plant physiology, with determination of a number of species of the flowering plants. If satisfactory evidence is presented, by examination or otherwise, that such a course has been completed before entering the College, the student will be admitted directly to the general botany of the Sophomore Class.

*Text-book and reference works:* Bergen's Elements of Botany; Gray's Lessons and Manual of Botany; Bailey's Lessons with Plants.

### II. GENERAL BOTANY.

FALL AND WINTER TERMS—Required of all Sophomores in the Scientific, Normal, and Agricultural courses.

The work of the course comprises a general survey of the morphology and physiology of plants, and is designed to give the student who goes no further with the subject a comprehensive view of the entire vegetable kingdom, while for the student who will continue his botanical study it is intended to afford a substantial basis for more exhaustive special studies. While it is accompanied with lectures and recitations, the laboratory method is the form of instruction principally used, and from the very beginning of his work the pupil is directed to the study of plants themselves, using the text-book as an aid to correct his mistakes and to enlarge his field of view. He is early instructed in the use of the compound and dissecting microscopes, and with their aid he begins in the Fall term the study of the simplest forms of the vegetable kingdom.

*Text-book:* Coulter's Plant Structures, supplemented by lectures, laboratory directions, and by numerous standard works of reference.

### III. SYSTEMATIC BOTANY.

SPRING TERM.—Required of Sophomores who elect Geology, Zoölogy, Anatomy and Physiology, Botany, or Agriculture as a major study.

The principal feature of this course is the taxonomy and classification of the ferns and flowering plants, with special reference to those groups which are of economic importance.

### IV. PLANT HISTOLOGY, ECONOMIC BOTANY.

FALL TERM.—Required of Juniors who elect Botany or Agriculture as major study.

In Economic Botany, which is assigned for Tuesdays and Thursdays, a thorough study is made of selected families of plants, with regard to their characteristics, distribution, habitat, economic importance, etc. In Histol-

ogy the student is given instruction and training in collodion, paraffin, and other methods of preparing vegetable tissues for microscopic study, accompanied and followed by a study of the slides so prepared.

*Text-book:* Chamberlain's Methods in Plant Histology.

### V. PLANT PHYSIOLOGY.

SPRING TERM.—Required of Juniors who elect Botany or Agriculture.

The course is conducted by lectures and laboratory experiments, which aim to bring to the student a clear conception of the main facts and principles of plant physiology, and naturally supplements the histological studies of the Fall Term.

To a considerable extent the laboratory experiments are carried on in the College greenhouses.

*Text-books:* The laboratory manuals of Ganong and Macdougal.

## Agriculture.

### I. SOILS.

FALL TERM—JUNIOR. This course includes a careful study of the nature, origin and waste of soils; the chemical, mineral and physical nature of soils; the physics of plant breathing and root action; the relation of air and moisture to the soil; soil temperature, and the objects, methods and implements of tillage. The principles and practice of farm drainage is considered at length.

*Test-book:* King's Physics of Agriculture.

### II. GRASSES AND FORAGE CROPS.

FALL TERM—JUNIOR. In this course the grasses and forage crops of Kentucky are considered with reference to their habit of growth, methods and cost of seeding, effect upon the soil, adaptability to different sections of the State, feeding, etc.

### III. THE CEREALS, TOBACCO AND HEMP.

WINTER TERM—JUNIOR. A comprehensive study is made of the cereals with reference to varieties, fertilization, culture, harvesting, production, use and marketing. Following this a similar study is made of the two Kentucky crops; tobacco and hemp.

*Text-book:* Hunts's The Cereals in America.

### IV. RURAL ARCHITECTURE AND FARM MECHANICS.

SPRING TERM—SENIOR. The course in rural architecture includes construction in the arrangement, location and construction of farm buildings—farm homes, barns, silos, etc. The very fine barns to be found in this section afford excellent illustrative material for the work in barn construction. The work in farm mechanics embraces lectures on the steam and gasoline engines, and each farm implement is studied in detail. The

students take apart and reassemble many of the more complicated machines used on the farm.

Lectures. *Text-book:* King's Physics of Agriculture.

In connection with the above course lectures will be delivered to the class by the Weather Observer, Mr. R. H. Dean, on the principles underlying weather forecasting by the U. S. Weather Bureau.

## Animal Husbandry.

### I. STUDY OF BREEDS AND LIVE STOCK JUDGING.

WINTER TERM—JUNIOR. During this term a thorough study is made of the different market and breed types of horses, cattle, sheep, and swine. Each breed is discussed with reference to its origin, history, and development, introduction to America and adaptability to Kentucky conditions. Live stock representing the different breeds and market types of animals will be brought before the class, and the work supplemented with a large number of lantern slides. Visits are made to the famous live stock farms in the vicinity of Lexington, and in December the Senior class will visit the Chicago International Live Stock Exposition, and while on this trip visits will be made to several of the foremost stock farms of Illinos and Ohio.

Lectures. *Text-book:* Craig's Judging Live Stock.

### II. DAIRYING.

WINTER TERM—JUNIOR. A study is made of the production, composition, and testing of milk, its marketing, separation, and pasteurization. Then follows a careful study of cream ripening, and the manufacture of butter and cheese. A study is made of creamery and cheese factory construction. The class room work is supplemented by practical work in the creamery.

Lectures. *Text-book:* Wing's Milk and its Products.

### III. VETERINARY SCIENCE, HORSE-SHOEING.

FALL TERM—SENIOR. In this course a brief study is made of animal anatomy and physiology, and obstetrics; then follows a discussion of the causes, treatment and prevention of the common diseases of horses, cattle, sheep and swine. This course is concluded by a thorough discussion of the proper method of shoeing horses, and the treatment of the different ailments of horses' feet.

Lectures. *Text-book:* Reynold's Veterinary Studies.

### IV. ANIMAL NUTRITION.

WINTER TERM—SENIOR. Having studied animal anatomy and physiology and the subject of chemistry, the senior students are prepared to next study the subject of animal feeding. The students compound rations for the different animals of the farm, and study each feed stuff offered on

the Kentucky market. The department has samples of all the different feeds found on the American markets. The feeding experiments under way on the Experiment Station farm afford facilities for illustrative purposes.

Lectures. *Text-book:* Henry's Feeds and Feeding.

### V. ANIMAL BREEDING AND MANAGEMENT.

SPRING TERM—SENIOR. This course embraces a study of the principles of breeding, including selection, heredity, atavism, variation and fecundity, etc., with a presentation of the methods of breeding, in-and-in breeding, cross breeding, line breeding, etc., and a historical study of their results. Pedigrees will be tabulated and familiarity with recognized stud and herd books cultivated.

The latter part of this term is devoted to a discussion of the proper methods of housing, feeding, care and management of the different kinds of farm stock.

Lectures. *Text-book* : Miles' Animal Breeding.

## Horticulture.

Required in the Agricultural Course. The work in this subject begins in January of the Junior year and extends through two terms. The time allotted to the subject is divided between lectures, recitations, and actual practice in horticultural operations, special prominence being given to the latter feature of the course.

In the lectures are discussed the principles underlying horticultural practices; the propagation of plants; the physiological considerations upon which are based the operations of budding, grafting, pruning, training, etc.; greenhouses, their construction, heating, and management; and vegetable, fruit, and landscape gardening. In connection with the lectures, the work in the greenhouses and upon the college and experimental grounds is freely used for illustrative purposes, and occasional visits are made to the greenhouses, nurseries, market and fruit gardens in or near Lexington.

In the practical part of his studies the pupil is not only taught the best methods of doing his work, but is encouraged to seek for the principles that make such methods best. He performs for himself the various operations of seed testing and seed sowing; propagation by cutting, layering, division, etc.; budding, grafting, crossing, hybridizing, and other forms of horticultural practice.

In order to make this work of the highest value to the student, he is required throughout the course to make accurate observations and careful notes upon his progress, and upon the results of these processes.

### THE AGRICULTURAL COURSE.

The distinctive feature of this course is the instruction in those branches of study which bear the most direct and practical relation to agricultural pursuits. It includes as subjects of primary importance the study of Gen-

eral and Agricultural Chemistry, General Zoölogy and Entomology, Botany, Horticulture, Geology, General Agriculture, and Animal Husbandry.

In addition to these subjects, the student devotes considerable time to the work of other departments, including a year in English and Mathematics, courses in Drawing, French, and German, Physiology, Physics and Political Economy.

To meet the needs of young men who for any reason cannot hope to complete a four years' course in Agriculture, a special course of two years has been arranged.

This course includes all of the more distinctively agricultural subjects of the full course, but does not lead to a degree. A certificate of proficiency will, however, be issued to those students who complete the studies of the entire course in a satisfactory manner.

The schedule of studies for this course will be found on another page. (See "Schedule of Studies.")

### THE SHORT (WINTER) COURSE IN AGRICULTURE.

In this course an opportunity has been provided for young men who desire to excel in their chosen occupation of farming to secure an elementary knowledge of those scientific principles which lie at the foundation of all success in agriculture. In order that such a course of study may not interfere with the work of the busy season upon Kentucky farms, it begins in January immediately after the Christmas recess, and continues for ten weeks. Its aim is to give to ambitious young farmers accurate and practical information on such important topics as manures and commercial fertilizers; agricultural chemistry; soils and their origin; plant life on the farm; vegetable and fruit growing; diseases of plants; injurious insects; the principles of veterinary science, and the treatment of the simpler ailments of farm animals; care and feeding of live stock; the dairy cow; milk and the manufacture of butter and cheese.

In such subjects as will permit it, actual practice will be given in the manipulation of materials and appliances of study, such as the care of milk, practical butter-making, spraying plants for injurious insects and diseases, and in horticulture the practices of seed-sowing, pruning and training, grafting, etc.

This course affords to young men on farms, whose time and means are limited, an opportunity to utilize the winter months to the highest possible advantages by fitting themselves more thoroughly for their life-work.

No examinations are required for admission to this course, the only requirements being that the applicant must be of good moral character, must have had a good common school education, and be at least sixteen years of age.

To residents of Kentucky, instruction in this course will be free, the only expense being the cost of a few books and other necessary incidentals, together with board and room and other personal expenses. Board and a

room can be secured at priees varying from three to five dollars per week, so that the total expense of a student during his entire ten weeks' stay need not exceed from thirty-five to fifty dollars.

Further information regarding this course may be obtained by addressing President Patterson or Professor Mathews, at the College.

## III. DEPARTMENT OF ENGLISH.

PROFESSOR MACKENZIE.

The course in the English language and literature is perhaps as thorough and comprehensive as local conditions will permit. The training is of such a nature as to promote individuality, and to this end occasional work is done in journalism, short-story writing, etc. For the pioneer few fields seem so fascinating as that which Posnett calls Comparative Literature Literary art is but a branch of anthropology, and in attempting to trace its evolution we may find a tentative solution of some of the more urgent problems. Possibly in the class lectures the booklover may find some suggestions new enough and true enongh to quicken both reason and imagination.

The Carnegie Institution was intended to be an impartial friend of all studies that tend to interpret nature to man and man to himself, but as at present organized no grant is to be made for original research in art or in philology. Philology is a science that gives opportunities for further research, though there is no occasion to impair breadth of vision by excessive application to the microscope.

### FRESHMAN YEAR.

FIRST TERM—Literature of the Nineteenth Century. The works of the Masters are regarded as kindred social phenomena. Lectures, collateral reading, and weekly exercises.

SECOND TERM—Rhetoric, its power and its powerlessness; its connection with grammar and logic. The aim is to give (*a*) some knowledge of rhetorical science, keeping in touch with the philosophy of literary expression; (*b*) practice, with personal criticism, in the various forms of composition, each student being allowed to lay stress on such lines as he desires.

THIRD TERM—One or two plays of Shakespeare, Jonson, or Goldsmith. Lectures on the Drama, its history and technique.

### SOPHOMORE YEAR.

English Literature of the Seventeenth and Eighteenth Century in alternate years. In discussing what Dallas calls "The Gay Science" the Ossianic and other literary controversies receive incidental attention. The principles of versification.

### JUNIOR YEAR.

FIRST TERM—English literary history of the alleged Dark Age. Readngs in Middle English as found in Thomas the Rhymer and others who

were independent of Chaucer. Bi-weekly study of Lloyd Mifflin's "Collected Sonnets".

SECOND TERM—Introduction to *Comparative Literature*. Some clues to a general theory of literary evolution from the days of primitive man. Can one principle be found that will account for the growth and decay of definite literary types—dramatic, lyric, epic—in all times and climes? Can the strictly scientific method lead to safe speculation upon the future of literature?

THIRD TERM—History of the English language; lectures on its origin, its Keltic, Teutonic, and classical elements, and its inflexions.

*Anglo-Saxon*—The course in Old English lasts throughout the year. Grammar and composition are learned simultaneously until the class is capable of reading selections from one or two of the more familiar texts.

### SENIOR YEAR.

*Anglo-Saxon*—Cynewulf's Christ, or some similar work. Lectures review the beginning of our literature and its relationship to the Keltic literature of Britain.

*Comparative Philology.*—An introduction to the scientific study of language in order to learn a few fundamental principles of: (1) Semeiology; (2) Spoken language, including phonology and grammar; (3) Recorded language, including pictography. The course consists of lectures, but requires some private collateral reading.

*Oriental Studies*—For the benefit of the more ambitious students of Comparative Philology, a course in elementary Sanskrit or Hebrew is offered.

It may help those who intend to specialize in theology, and may awaken a taste for Aryan or Semitic philology, a more thorough study of which can be pusued at the student's leisure.

*Electives*—In the course of studies leading to the degree of A. B. (major study, English), Junior students may elect Greek or Latin, and are obliged to take at least one term of Analytical Geometry; Seniors may elect French, Latin, or one of the Oriental studies.

*Prize*—The works of some standard author, open for competition to all regular Junior and Senior students, are offered for the best critique of the poets of Kentucky.

*Thesis*—Senior students who take the A. B. course (major study, English) are required to write a thesis on a topic approved by the Professor of English. It must display considerable research, and be untainted by plagiarism. An original poem of at least one hundred lines in either English or Latin may be offered as an alternative.

### GRADUATE STUDY.

1. Gothic language and literature. 2. The origin and literary history of the Arthurian legends and romances. 3. Early Scottish literature, from Barbour (1375) to George Buchanan (1582), including Dunbar, Gavin Doug-

las, and Lindsay; or, 4. Such a topic as may obtain the sanction of the Professor of English.

*Gothic*—Like Anglo-Saxon Gothic has undergone only the first sound-shifting or ablaut, and is therefore one of the Low Germanic languages. In phonology and inflection it is the most primitive member of its family and has thus the highest historical interest for students of Old English. Grammar with readings from the Gospels. Initiation into some of the mysteries of Anglo-Saxon, Norse, and Gothic runes, followed by a brief discussion of the 3 x 8 formulation of the futhark.

SEMINAR. *Old English Legal Codes*—A special course interesting alike to the propective law student, the philomath, and the jurist. If deemed desirable, a brief preliminary training in Anglo-Saxon syntax.

### Logic.

The Science of Logic; lectures on Pure Logic, in which Stoichiology and Methodology are explained and illustrated; explanations and illustrations of the analytics of Aristotle and the New Analytic of Sir William Hamilton; exercises in Figure, Mood, and Reduction; lectures on fallacies and Sources of Error; lectures on Inductive and Analogical Reasoning; lectures on Evidence.

## IV. DEPARTMENT OF MILITARY SCIENCE.

LIEUTENANT BURTT.

The military instruction is under the charge of an officer of the United States Army. The course as a whole has special reference to the duties of the line. A full supply of arms and ammunition is furnished by the War Department for the use of the cadets in this course.

Every male student able to perform military duty, and not excused for sufficient cause, is required to drill twice each week and to attend the required lectures and recitations throughout the Freshman and Sophomore years. The standings in study and drill are placed on record, and are requisite to graduation in every course in the College.

The battalion is composed of four companies and the artillery and signal detachments. The officers are usually selected from the Junior class and the non-commissioned officers from the Sophomore class. The officers are paid a small sum for their services.

The uniform prescribed is of cadet gray; coat, trimmed with black mohair braid; trousers, with black cloth stripe, cut after the army pattern. In order that all uniforms worn here may be, in quality, make, and finish, in strict accordance with the specifications adopted by the College, all students enrolled in the military department are required to obtain them from the firm only that may for the time being be under agreement to furnish said uniforms at a stated price and of standard quality.

### THEORETICAL INSTRUCTION FOR ALL MALE STUDENTS.

Infantry drill regulations, U. S. Army. Firing regulations. Manual of guard duty. Army regulations.

Lectures on the organization and administration of the United States Army, and the general principles in the art of war. Freshman and Sophomore years, one hour per week.

### PRACTICAL INSTRUCTION FOR MALE STUDENTS.

*Infantry.*—School of the soldier, squad, company and battalion; ceremonies; guard duty; minor tactics.

*Artillery.*—School of the cannoneer, and battery, dismounted; ceremonies; guard duty.

Freshman and Sophomore years, two hours per week.

### THEORETICAL INSTRUCTION FOR ALL OFFICERS AND SERGEANTS.

Military administration; field engineering; elements of the art of war; preparation of reports and returns.

Sophomore and Junior years, one hour per week.

## V. DEPARTMENT OF CHEMISTRY.

PROFESSOR PALMER, MR. PADDISON.

The Chemical Department dates from the establishment of the institution. For many years it was under the direction of Dr. Robert Peter, who, by his labors in analytical chemistry, has probably done more than any other man to develop the abundant mineral resources of the State. Formerly the chemical laboratories occupied the eastern part of the main College Building. In 1880, the Kentucky Experiment Station Building having been completed, the Chemical Department was removed to the more suitable rooms of the Experiment Station. The lecture-room and the laboratories, qualitative and quantitative, of the Chemical Department are well adapted to their purpose and are among the best constructed and most handsomely furnished of the rooms in the College. The qualitative laboratory contains the large working tables, each of which can easily accommodate ten students. The quantitative laboratory is also well equipped with tables, hoods, water, gas, and electricity, and has desk room for at least fourteen students in all. The lecture-room is well lighted and heated and beautifully furnished and commodious, having a seating capacity of about seventy-five.

By the recent removal of the Experiment Station to its new building, the Chemical Department of the State College has succeeded to the entire building, a part of which it had occupied hitherto conjointly with the Experiment Station. With its facilities thus enlarged, and in a building now wholly devoted to Chemistry, an opportunity is offered for the expansion of the Chemical Department in various directions.

### APPARATUS.

The Department is well supplied with the commoner forms of chemical apparatus and chemicals. In addition to these it owns several of the more expensive pieces of apparatus, such as several delicate balances for analytical work; a grand model Bunsen & Kirchoff spectroscope; platinum apparatus; a glass model ice-machine. These will be added to from time to time, as the needs of the Department demand and the resources of the institution permit; as it is now, however, the equipment is such as readily to enable the student to obtain at first hand a good working knowledge of the principles of chemical science.

### COURSE IN CHEMISTRY.

The Chemical course is one of the several scientific courses offered by the College. It is offered with the view of preparing the student for life work in Chemistry, or of fitting him for the study of medicine and kindred professions. To the accomplishment of this purpose the following course of study, extending over a period of four years, has been adopted.

### STUDIES REQUIRED.

The first year is devoted to the study of English, German, Physiology, Free-hand Drawing, and Mathematics, including Plane Geometry, Trigonometry, and Algebra. The second year to German, Physics, Botany, Chemistry, and Mathematics, including Solid and Analytical Geometry and Calculus. The third year to Theoretical Chemistry, English, Calculus, French, and laboratory work on the Chemistry of the metals and on Qualitative Analysis, Mineralogy, and Blow-pipe Analysis. The fourth year to Quantitative Analysis, Organic Chemistry, Chemical Reading on advanced topics, and to Chemical Research, History and Political Economy, Logic and Mental Philosophy.

For further information as to requirements, the Schedule may be consulted, page 59.

### THE TRAINING IN CHEMISTRY PROPER.

The study of Chemistry proper, as outlined in the above, is sufficient in its scope to bring the student into close contact with the great fundamental truths of the science.

The course in General Chemistry, extending through the second and third terms of the second year, consists of lectures and recitations five times weekly on the non-metals and their compounds and the simpler laws of chemical change. The lectures are illustrated by experiments; the laboratory work is carefully directed, and the student receives every possible encouragement to do creditable work.

In the third year the study of Chemistry consists of laboratory work and Theoretical Chemistry. The study of Theoretical Chemistry, consisting of lectures recitations, and readings five times weekly throughout the year, is intended to acquaint the student with the greatest generalizations and theories of modern chemistry and their historical development.

In this connection about fifty lectures are delivered annually upon the following general topics: ten upon tne Atomic Theory, its development, and the methods at present used in the determination of atomic weights; fifteen upon the Compounds of Carbon, Isomerism and Structural Formulæ; ten upon the History of Chemistry; five upon the Periodic Law; five upon the Spectroscope, Spectrum Analysis, and the Chemistry of the Heavenly Bodies; five upon the more important current chemical investigations.

By way of supplementing the work of the lecturer, students pursuing this course will be required to do a certain, rather liberal, amount of general reading upon the matter treated as in the lectures or upon such other topics as may be assigned to them. For this purpose the nucleus of a chemical library has been formed, which may be freely consulted by any or all students in the College, and the leading chemical journals of this and other lands will there be kept on file. The broadening influences of such a course of study can scarcely be overestimated, and the students who complete it satisfactorily will find themselves abreast of the highest and best chemical thought of our time.

The laboratory work during the first term of the third year is devoted to the study of the metals and their more important compounds, and to qualitative analysis. This work is intended to supplement the work of the first year upon the non-metals, and also to familiarize the student more fully with the commoner methods of chemical manipulation and practice. The laboratory work of the first term will be followed up during the second and third with laboratory work in quantitative analysis, by means of which the student learns the value of precise and accurate work and the constancy and definite character of chemical reactions. The chemical work of the last year will consist of such special work as the student may elect, together with the preparation of a thesis embodying the results of this special work. The object of such special arrangement is to perfect him in that branch of the science for which he shows a liking or talent. In this connection it may be well to state that facilities are offered for special work along the following lines: Theoretical and Physical Chemistry, Organic Chemistry, Agricultural Chemistry, Physiological Chemistry, general analytical work, and special analytical work on fertilizers, iron and steel fuels.

### CHEMISTRY REQUIRED IN OTHER COURSES.

Instruction in Chemistsy in other courses of study is designed to meet the special needs of the student in these various directions.

In the Classical Course the study of this science extends over five months, five times weekly, and is intended simply to introduce the student to the subject by the way of general education.

In the Scientific Course the work extends over ten months. A portion of this time is devoted to the study of metals and qualitative analysis by means of laboratory work. In the course of Mechanical Engineering the instruction is adapted as completely as possible to the needs of students in this department. Instruction in chemistry in this course extends over a

period of two terms, five months of which are devoted to the study of the non-metals and their compounds; five to the chemistry of the metals with special reference to the properties which render them useful to the mechanical engineer, and also with reference to their mode of occurrence in nature and the methods of obtaining them from the ores; one term's work in metallurgy is also required.

For students in Civil Engineering a course in Chemistry has been provided as follows: General Chemistry, one term; laboratory work on the metals, one term.

In the course of Mining Engineering instruction in Chemistry extends over a period of three terms, and includes the following subjects: General Chemistry, the Chemistry of the Metals and Quantitative Analysis. In addition, one term's work in Metallurgy is required.

The instruction in Chemistry is also adapted as fully as possible to the needs of students in Biology. Instruction in this branch extends over two terms, five times weekly. The first half of the time is devoted to the study of Elementary Chemistry. This is followed by laboratory work in the afternoon upon those elements which are regarded as essential to animal and vegetable life.

## VI. DEPARTMENT OF MATHEMATICS AND ASTRONOMY.

PROFESSOR WHITE, ASSISTANT PROFESSOR DAVIS.

### PREPARATORY.

A thorough knowledge of Arithmetic, of Algebra, through quadratic equations, as presented in Fisher and Schwatt's Higher Algebra, and of Plane Geometry as presented in books I to V inclusive of Beman and Smith's Geometry. is required for admission to the Freshman Class in Mathematics.

### FRESHMAN CLASS.

FIRST TERM—Wentworth's Plane Trigonometry.

SECOND TERM—Beman and Smith's Solid Geometry.

THIRD TERM—Fisher and Schwatt's Higher Algebra, from Chap. XXV.

### SOPHOMORE CLASS.

FIRST TERM—Nichols' Analytical Geometry begun.

SECOND TERM—Nicholos' Analytical Geometry continued; Low's Descriptive Geometry begun.

THIRD TERM—Nichols' Analytical Geometry completed; Low's Descriptive Geometry completed; Granville's Calculus begun.

### JUNIOR CLASS.

FIRST TERM—Granville's Calculus continued.

SECOND TERM—Granville's Calculus completed.

### SENIOR CLASS.

FIRST TERM—Spherical Trigonometry and Astronomy.

SECOND TERM—Young's Elements of Astronomy begun.

THIRD TERM—Young's Elements completed.

## VII. DEPARTMENT OF MODERN LANGUAGES.

PROFESSOR WERNICKE.

### German.

The courses offered in German are :

Ga1 : Preparatory course in German, taught in the Academy, beginning September 1907. Three consecutive terms.

Ga2 : Second year of preparatory German, taught in the Academy, to be introduced later. Three terms.

G1 : First year of collegiate German. Systematic Grammar, Composition, Literature. Two terms.

Gs : An introduction to scientific prose. One term.

G2 : Literature and composition continued. History of Literature.

G3 : Advanced and special composition. Essay work.

Gc : Conversational exercises for advanced students.

G1 : Study of an author or a phase of literature. Primarily for graduates.

Gph : Elements of Germanic Philology. For graduates.

F2 : Introduction to French literature. Syntax and Composition. Three terms.

F3 : Advanced Composition. One term.

Fh : History of French literature, consisting of lectures and weekly reports on collateral reading (two terms).

Fc : Advanced conversational exercises (one term).

S1 : Elementary Spanish (two terms).

S2 : Advanced Spanish (one term).

I1 : Elementary Italian.

I2 : Advanced Italian.

All classical and scientific students take F1, the former also F2. Candidates for the degree of M. S., if French be one of their minor studies, will be assigned F2; if French be their only minor study, further work may be required. Candidates for the degree of M. A. will take Fh if French be one of their minor studies; F3 *plus* Fh if it be their only minor. In addition thereto, those who select French as their major study will take either Fc, or S1 *plus* S2, or I1, and will present a thesis written in French (about 4,000 words).

The text-books in this Department are frequently changed, and a large portion of the instruction in all classes is independent of the manual adopted. Texts recently used are,

G1 : Joynes-Meissner's and Thomas' Grammars ; Thomas & Hervey's Reader ; Carmen Sylva's Aus meinem Koenigreich.

Gs : Hodges' Scientific German ; Gore's Science Reader; Dippold's Science Reader.

G2 : Goethe's Torguato Tasso ; Freytag's Luther : Schiller's Wallenstein, Maria Stuart, etc.; Scheffel's Trompeter; Freytag's Soll und Haben; Harris' Composition.

G3 : Lessing's Nathan, Mina von Barnhelm, Laokoon, etc.; Kleist Prinz von Homburg.

Gh : Bernhardt's Litteraturgeschichte.

Gl : Klenze's Gedichte.

Gph : Paul's Mittel-hochd. Grammatik; Wackernagel, Edelsteine.

F1: Frazer & Squair's Grammar; Edgren's Grammar; Cameron, Tales of France, Fontaine's Napoleon, Erckmann-Chatrian, Waterloo.

F2: Loti's Pécheur d'Islande; Lacombe's Petite Histoire; Rostand's Cyrano de Bergerac; Grandgent's Composition; Luquiens' Places and Peoples; Herdler's Scientific French Reader, Bazin's Les Oberlé.

Fh: Demogeot's and Aubert's Litêrature Francaise.

S1: Loiseaux, Grammar and Reader.

S2: Same, Knapp's Readings; Alarcon's El Capitan Veneno.

I1: Grandgent's Grammar; Bowen's Reader.

I2: Goldoni's Comedies; Pellico's Prigioni.

## VIII. DEPARTMENT OF GREEK AND LATIN.

PROFESSOR NEVILLE, ASSISTANT PROFESSOR JONES.

### Latin.

#### PREPARATORY.

*First Session*—Smiley & Storke's Beginner's Latin Book, the study involving a daily exercise in inflection and in translation from and into Latin on the blackboard; Viri Romæ.

*Second Session*—Second Year Latin, or four books of Cæsar; Daniell's New Latin Composition; Creighton's History of Rome.

#### FRESHMAN CLASS.

Six orations of Cicero; selections from Ovid, with instruction in scanning; the first and twenty-first books of Livy; Johnson's Private Life of the Romans.

#### SOPHOMORE CLASS.

Six books of Virgil; Cicero De Senectute; the Captives of Plautus or Suetonius's Life of Augustus; Sallust's Conspiracy of Catiline.

#### JUNIOR CLASS.

Horace (except a part of the Epodes and most of the Satires), with the scanning of the more common metres; letters of Cicero and of Pliny; the first half of Bradley's Arnold's Latin Prose Composition.

#### SENIOR CLASS

Tacitus—The Germania and the Agricola; the third, seventh, eighth, and tenth Satires of Juvenal; or, instead of the seventh and eighth, an essay of Seneca's; poems of Catullus; the second half of Arnold's Composition; Wilkins' Sketch of Latin Literature.

### Greek.

#### PREPARATORY.

*First Session*—White's Beginner's Greek Book, with a daily exercise in inflection and in translation from and into Greek on the blackboard (all Greek to be written with the accents).

*Second Session*—Greek Reader; four books of Xenophon's Anabasis; Oman's History of Greece.

#### FRESHMAN CLASS.

Six books of the Iliad; selections from Herodotus; Plato's Apology and Crito; exercises in Greek syntax.

### SOPHOMORE CLASS.

Four orations of Lysias; four of Demosthenes; Xenophon's Memorabilia, or dialogues of Lucian; exercises in syntax and prose composition,

### JUNIOR CLASS.

Two books of Thucydides; poems of Theocritus, Bion, and Moschus.

### SENIOR CLASS.

Three dramas (Prometheus, Medea or The Clouds, Œdipus Rex or Antigone); Jebb's Sketch of Greek Literature.

The curriculum leading to the classical degree of A. B., and set forth in the Schedule on page 69. includes English, Greek, Latin, French, German, History, Political Economy, Metaphysics, Mathematics and some Physical Science. The grouping of these studies is designed to meet the needs of those students whose tastes and aptitudes incline them to literature rather than to science; who seek not knowledge alone but culture as well; and who, moreover, desire a course of studies suited to those who are to prepare themselves for a profession, and to become teachers, preachers, physicians, lawyers, journalists, writers or scholars, or, it may be, legislators or authors.

To this brief statement of the objects kept in view in making up this group of studies it is due to this Department, and not meant to be invidious, to add, that statistics published annually by the U. S. Commissioner of Education show that, even in this country where scientific and the so-called practical studies are so strongly and so justly recommended and encouraged, that even here the classical course is from three to six times more popular than any other; while the English, the French, and the Germans, who in letters, arts, and arms rank highest in the scale of nations, devote far more attention to these studies than we. Indeed, as showing the educational trend of the most intelligent people that has ever existed, it is a fact of impressive significance that a vast Thesaurus Linguae Latinae, *Thesaurus of the Latin Language*, and written in Latin, the product of five leading universities of the Germans, and therefore of the world, Berlin, Leipzig, Goettingen, Munich and Vienna, is now appearing from the press of Teubner. This magnificent and monumental work is to consist of twelve volumes quarto, each as large as Webster's Unabridged, and to sell, when durably bound, for more than $200 a copy. No other language has had such a dictionary, and this Thesaurus is the greatest contribution ever made to the study of that language which to every highly civilized people is more important than any other except their own; which has formed nearly half of ours and more than half of three others; and which, therefore, cannot, in any rational scheme of education, be neglected or disparaged but must retain its place if not its primacy among the most useful studies that man can pursue.

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In 1904, the last year reported, there were in American colleges, universities, and technological schools, 118,029 students: in classical courses, 52,131; in other culture courses, 13,009; in general science, 9,540: in mechanical engineering, 6,894; in civil, 6,118; in electrical, 4,389; in mining, 2,324; in agriculture, 2,196.

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The Professors of this Department offer courses of study equal to those of the best land-grant colleges, courses as long and as varied as the grade of their students and other limitations allow. In offering them they announce that their method of instruction, so far as it is distinctive, rests on the assumption that ability to write a language well is the infallible test of a real knowledge of it. Unusual attention is therefore given to Greek and Latin composition, the first session being devoted almost entirely to the writing of exercises. This leads directly to an accurate knowledge of the forms and meanings of words, of the rules of syntax, and of the idioms. Every student of the classes in grammar is required daily to translate on the blackboard an exercise from Greek or Latin into English, and

another from English into Greek or Latin, and then to write out declensions and conjugations, with careful attention to the length of syllables and to accentuation. His work is then rapidly corrected by the teacher, who in making his corrections supplements the lesson of the text-book with instruction on the order of the words, on synonyms, on the derivation of English words suggested by the words of the exercise, and on other pertinent matters. This process involves great labor for the student and drudgery for the teacher but it leads to a mastery of the grammar and to much more.

The second session is spent mostly in reading the easy Latin of Viri Romæ, Nepos, and Cæsar, or the easy Greek of the Reader and Xenophon, considerable attention being still directed to the writing of exercises. The student is encouraged in the habit of first reading the sentences in the Greek or Latin order of the words, and of then translating them in the English order and idium. The translations are partly oral, partly written.

During the remainder of the courses the bright and diligent student proceeds from the easier authors to the more difficult, enlarging his vocabulary, extending and sharpening his knowledge of forms, syntax, and idioms, incidentally directing his attention to metres. geography, history, mythology, and antiquities, and perpetually and supremely to the effort to find the best English expression for the Greek or Latin thought; for, while more than a third, and that too unspeakably the most difficult third, of our own magnificent language is derived from Greek and Latin, and while the study of these tongues is therefore intensely practical to those who speak English, and indispensable to all who would thoroughly acquire it, yet it is in the intellectual training to be had from the proper translation of the Greek and Latin authors that the advocates of classical learning find their amplest justification and defense, their most cogent plea. The ceaseless quest for the clearness, force, and beauty of the best Engllsh, in order to find an equivalent for the best Greek or Latin, calls into play every faculty of the mind and gives to classical studies an educational value which, we insist, no substitute can equal.

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The Germans are admitted to be the leading educators of the world. In the nine years' curricculum of their 443 gymnasia, which are their best secondary schools (corresponding to our colleges, but conferring no degrees and with fewer studies far better taught), they assign to the study of Greek and of Latin a higher educational value than to any other study.* In the 227 Prussian gymnasia, for example, Latin, by the time devoted to it, is valued at 62, Greek at 36, and Mathematics, the next highest study, at 34. In the other parts of Germany the difference is greater still. In the Saxon gymnasia, Latin is valued at 72, Greek at 41, mathematics at 33; in those of Würtemberg, Latin at 81, Greek at 40, mathematics at 33. Similarly, in the great public schools of England, including Oxford and Cambridge (with a higher extimate of mathematics, however), as well as in the Lycées, the leading secondary schools of France, the utility of the study of the Latin language as a medium of intellectual training and culture is everywhere recognized as supreme. And the results have justified the estimate. A system of education by which a host of great men, from Bacon to Gladstone, have been fitted for their splendid careers, is assuredly not a bad one, and in that system Greek and Latin have always held the first place.

The National Commissioner of Education reports that in the secondary schools of the United States there were, in 1889-1890, 100,144 students of Latin; in 1897-1898. 274,293, an increase of 174 per cent., and greater than any other study; that in the same nine years the students of Greek increased from 12,869 to 24,994, an increase of 94 per cent.; and that in 1897-1898, 49.44 per cent., almost exactly one-half of all the students of secondary schools, were studying Latin. When the immense number of classical students in the 629 colleges and universities of the United States is added to the 300,000 and more now in our secondary

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*"The classical literature is, and will continue to be, the source of all our culture. It must remain, therefore, not only an indispensable but by far the most important study in our higher schools."—Frederic Gedike And yet the German language owes little to Greek and Latin, while the English owes to them nearly half its words. The inference of course is that the study of Greek and Latin is far more useful to an American or an Englishman than it can be to a German, for the German derives culture from the study and the Ameri can or Englishman both culture and a knowledge of his language.

schools (369,329 in 1904) it will be plain that there is no decline in the demand for classical learning.

While no wise man will seek to disparage or unduly to exalt any branch of knowledge, it is not invidious to say that though the vast expansion of science during the wonderful nineteenth century has contributed enormously to the comfort and glory of man, yet an immense majority in the civilized nations will continue to feel more interest in man and his doings than in matter and its properties, more in literature than in science, and more in the applications of science than in its principles and processes.

Greek, the marvelous tongue of the most intellectual of all the races; the tongue that has contributed thousands of words to our own; the tongue that enshrines the noble literature which has been the model of supreme excellence for twenty centuries; Greek, in the crowded curricula of American schools, especially of co-educational schools, will, for ordinary students, naturally give place to the easier and more practical French and German.

The more gifted or ambitious, who seek high scholorship and a more liberal culture, will learn Greek, and of course French and German. Nay, when a student of high spirit finds that he must know eight languages to read the notes to so common a work as Macaulay's History or Buckle's, he will be ashamed to skip any, and he will not be satisfied till he can read them all, including those in Greek.

It is timely to mention that after long and earnest debate, the proposition to substitute French and German for Greek in the course for A. B. at Oxford and Cambridge has lately been voted down by a great majority. A needless wrangle, easy to settle once for all by giving a higher degree to those who learn all these languages and a lower to those who omit Greek or French or German.

IX. The Academy is described after the Collegiate Departments.

## X. DEPARTMENT OF PEDAGOGY.

PROFESSOR MILFORD WHITE.

The Normal Department of the State College exists under the authority of acts of the General Assembly approved April 23 and April 29, 1880. Section 7 of the first act briefly defines the object for which the Department was established, "a Normal Department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the College." The second act provides the necessary endowment to make the Department effective.

Acting under the clause above quoted from the incorporating act, the authorities of the College have organized two distinct but closely related sub-departments of work for teachers. These are the Normal School and the College course in Pedagogy; the one designed to prepare teachers for the elementary schools; the other, for secondary schools and colleges.

In this arrangement the State College of Kentucky is unique and possesses a distinct advantage. Through the Normal School it comes into close and sympathetic touch with the masses of the teachers throughout the State; and through the college course it comes into vital contact with the more advanced teachers and the higher schools.

Many students who come to the Normal School are led, as the result of what they see of the college work, to undertake an advanced course. The Normal School thus discharges a function whose value cannot be overestimated, in that it introduces many of the most intelligent youth of the State to the facilities which the College can offer them.

## THE COLLEGE COURSE IN PEDAGOGY.

In 1893 the College authorities, in response to a strong demand for advanced instruction for teachers, organized a full collegiate course with Pedagogy as a major. This action put the State College on a par with other institutions in the North and West, for there are few State universities in those sections that do not support a department for the advanced teaching of education.

This course is co-equal in number and difficulty of subjects, in the time required for its completion, and in disciplinary and cultural value, with the other full collegiate courses. The purpose of the course is to fit young men and women for the best service as teachers in high schools, academies, and colleges.

To realize this purpose the course offers, in addition to the usual amount of work in science, language and mathematics, specialized instruction in the following subjects, which give to this course its distinctive character.

### GENERAL PEDAGOGY.

In the third term of the Sophomore year the student is given a general view of the whole field of Pedagogy through a synoptic outline of the subject. The purpose is to present enough of each topic in Pedagogy to show the trend of each important question in modern education. The work is carried on both by lectures and class discussions.

### PSYCHOLOGY.

In the first term of the Junior year the subject of Psychology is presented, chiefly with reference to its value to the teacher. Psychology is treated as a basis of the science of education and the art of teaching. No time is spent in mere speculative discussions, but from the very first the effort is made to connect the subject vitally with the teacher's actual work in the school. Especial attention is given to the mind's functions in Acquiring, Assimilating, and Expressing. The value of Psychology also is shown as the basis of Methodology, and of Educational Economy.

The text-book is "Halleck's Psychology."

In the second term of the Junior year a few more of the valuable topics in higher Psychology are taken up. The special Psychology of some of the advanced branches will be studied.

The work will be library research, lectures, and class discussions.

### EDUCATIONAL ECONOMY.

In the third term of the Junior year the different subjects comprised under the general term "Educational Economy," are taken up in detail. No text-book is used, but the well-stocked library of the Department is put at the service of the students, and from all available sources they are expected to work up such subjects as (1) the organization and administration of the individual school, in country and city; (2) the organization and administration of State and city systems of schools; (3) the course of study;

(4) fatigue; (5) buildings and grounds; (6) control and discipline; and (7) the correlation of the school and the community.

These topics are discussed with constant reference to their underlying psychological and sociological principles.

This term's work is particularly suited to those who are preparing for principalships and county or city superintendencies.

### METHODOLOGY.

Through the first term of the Senior year the student carries the work in Methodology, all of which is based directly upon Psychology.

The principles of general method, and the special methods of each school subject are thoroughly discussed, and much drill is given in the making of lesson-plans.

The text-book used is "Roark's Method in Education."

### THE HISTORY OF EDUCATION.

The second term of the Senior year is devoted to the History of Education.

It is found much the best plan to place this study last in the curriculum, because by the time it is taken up the students in Pedagogy are sufficiently familiar with the different divisious and problems of the subject to understand and interpret the history of educational development.

The text-book used is "Seeley's History of Education," but in this subject the library is freely used.

### PROFESSIONAL READING.

For a student to get the best results from the study of any suject, he should read as widely as possible in the literature of the subject. This is especially true of education, which has such a wealth of literature and touches closely so many other subjects. One term, and when possible more time, is devoted to the reading and analysis of such books as Butler's "The Meaning of Education," Jordan's "The Care and Culture of Men," Hanus' "Educational Aims and Educational Values," Henderson's "Education and the Larger Life," Hinsdale's "Jesus as a Teacher," etc.

The department library is well stocked with the best pedagogical literature, and pupils are urged to make constant use of it.

### OBSERVATION WORK.

As much time as possible is used by the students in visiting schools in the city of Lexington and the rural districts near by. Reports upon this observation of the work of experienced teachers are prepared and handed in by each pupil, and form the basis of class discussions.

### THESES.

Each candidate for the Bachelor's Degree in Pedagogy is required to write a thesis upon some theme assigned by the Dean. This work must be done acceptably and a copy of the thesis left with the Department.

By act of the late General Assembly graduates of this Department (Bachelors of Pedagogy) are authorized to teach during life, unless they cease teaching for five consecutive years.

## XI. DEPARTMENT OF CIVIL ENGINEERING.

PROFESSOR BROOKS.

The course of Civil Engineering is planned to acquaint the students with the knowledge of the subjects necessary to enable the civil engineer to develop himself into a skilled practitioner of his profession in any of its several branches. So far as is possible, the importance of each subject taught is illustrated by its application to some work similar to that which is met with in actual practice. An effort is made to render the course valuable, not only for the professional uses, but also from an educational standpoint; therefore, while the student is learning each subject, both theoretically and practically, the training of his mind as well as the needs of his profession is kept in view. In addition to the purely technical matters included in the course, provision is made for the study of English, History and Political Economy.

### EQUIPMENT

The Department of Civil Engineering occupies the second floor of Engineers' Hall, which contains an office and recitation and drawing-rooms for the accommodation of classes of twenty-five students. The drawing-room is equipped with tables, boards, drawing paper, and all the larger and more expensive drawing instruments, which are at the disposal of all students. The surveying instruments belonging to this Department are of the highest grades of the various makers, and among them are included five transits—one each by Buff and Berger, Heller & Brightly, Keuffel & Esser, Mahn, and Ware; three levels by Gurley, Brandis, and Seelig & Kandler; a sextant by Gurley; a compass by Gurley; a plane-table by Keuffel & Esser; a precise pantagraph, and a solar instrument by Saegmüller, together with level and stadia rods, tapes, and other minor accessories. The library for the use of students in engineering contains a well selected supply of standard literature and periodicals pertaining especially to Civil Engineering.

The technical studies in the course of Civil Engineering fall under the heads of Drawing, Surveying, Construction, Applied Mechanics, Bridge and Machine Design, and Sanitary Engineering.

### LABORATORIES.

Instruction is given in the Physical Laboratory during the first term of the Sophomore year, and in the Chemical Laboratory during the second term of the Junior and Senior years.

### DRAWING.

The work in drawing is begun in the first term of the Freshman year, and consists of free-hand sketching from models, engineering structures, and from drawings, and in practice in the use of drafting instruments. In the Sophomore year the time is occupied in mapping, with exercises in topography, and special attention is given to the rapid and accurate formation of Roman and other appropriate styles of letters. In the second term, four hours a week are devoted to the solution of problems in Descriptive

Geometry. During the winter of the Junior year a topographic map is plotted from notes of a survey made by the class during the autumn. Such a map made by the present Junior class embraces four city blocks, a farm of about two hundred acres, and was plotted on a scale of two hundred feet to an inch. One hour a day during the second term is devoted to problems in stone-cutting. A topographic map of railroad location, with cross sections and profile, is completed in the third term, and graphic analyses of frame structures are made during the year. In the Senior year the work in drawing consists of problems in design and of construction details.

*Text-books:* Low's Descriptive Geometry; Siebert & Biggin's Stone Cutting; Reinhardt's Technique of Mechanical Drafting.

### SURVEYING.

The course in Surveying is begun in the second term of the Sophomore year, with the study of text-books on the theory of plane surveying, supplemented by ample practice in the solution of numerical examples This is followed by daily field practice in the use and adjustment of surveying instruments, with exercises in leveling, determination of inaccessible distances, and in farm surveys. In the first term of the Junior year a topographic survey of a tract of land adjacent to the College property is made, based on a system of accurate triangulation. In the second term the theory of railroad surveying is studied, especial attention being given to spirals and other modern features of railroad practice. A line of railroad is run and cross-sectioned, and an estimate made of the cost of construction. The study of Geodesy is taken up in the Senior year, embracing the theory of adjustment of a system of triangulation and the methods of determining latitude, longitude, and azimuth. The State College system of triangulation has been begun and will be yearly perfected and extended by the Senior classes.

*Text-books:* Merriman and Brooks' Hand-book for Surveyors; Brooks' Street Railway Location; Nagle's Railroad Engineer's Field Book; Merriman's Geodetic Surveying.

### CONSTRUCTION.

The methods of construction are taught by lectures on limes, cements, wood, steel, and other building material; on principles of foundations on land and under water; on masonry walls and dams; on roads, railroads and street paving; on the theory and erection of arches; on tunneling, and on the construction of high steel buildings. The lectures include descriptions and sketches of notable existing structures, and short excursions will be arranged for the class as often as possible. The latest methods of conducting tests of cement, iron, steel, wood, brick and other material are practised by each student in the well equipped laboratory belonging to the College.

*Text-book:* Baker's Masonry.

### APPLIED MECHANICS.

The work in applied mechanics extends over the Junior and Senior years, and includes the theory of the strength and elasticity of beams, columns, and shafts; of stresses in framed structures and arches; of the theory

of dynamos and steam engines and its application to pumping and hoisting machinery and to locomotives.

*Text-books:* Merriman's Mechanics of Materials; Unwin's Elements of Machine Design; Merriman & Jacobi's Roofs and Bridges, Parts I and II; Barr's Pumping Machinery; Bowser's Analytic Mechanics.

### BRIDGE DESIGN.

The course in Roofs and Bridges is begun in the first term of the Junior year and continues through two years. The theory of computation of stresses by both analytical and graphic methods is thoroughly taught from the text-book and numerous numerical examples. At the beginning of the Senior year the design of bridges is begun, and the method of instruction is to proceed from the simple to the complex. The outline and details of existing structures are examined, and the student becomes familiar with drafting-office methods by constant reference to working drawings.

*Text-books:* Merriman & Jacobi's Roofs and Bridges, Part III; Howe's Roof Design.

### SANITARY ENGINEERING.

The work in Hydraulics includes the study of the flow of water through orifices, pipes, and large channels; the theory and tests of water motors and the measurement of power In Sanitary Engineering the course comprises the consideration of the separate and combined systems of sewerage; the methods of sewage disposal, and the collection, purification, and distribution of a system of water supply.

*Text-books:* Merriman's Hydraulics; Ogden's Sewerage.

## XII. DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

PROFESSORS ANDERSON AND FAIG, ASSISTANT PROFESSOR WILSON.

This department was organized August, 1891. The growth in attendance has been healthy, and for some years it has had the largest attendance of all of the four year courses.

The home of this department is Mechanical Hall, a brick building trimmed with stone, having a floor area of 20,000 square feet. There are three recitation rooms and two drawing rooms, in which theoretical subjects and mechanical drawing and design are taught.

Practical experience in the wood and pattern shop, the foundry, the blacksmith shop and the machine shop, is obtained during the first two years of the course.

Experimental work in mechanical and electricical engineering is done in the engineering laboratories. The main laboratory is in Mechanical Hall, and contains the necessary machinery and apparatus for experimental work of a dynamic character, in both mechanical and electrical engineering. An auxiliary laboratory is situated in a detached two-story building. This building contains concrete piers, so that careful measurement can be made

in the study of magnetic and electric phenomena; it also contains apparatus for work in photometry and telephony.

The equipment of the department is described briefly as follows:

The drawing rooms contain drawing tables and boards to accommodate about one hundred students.

Power is supplied to the shops by a 10-inch by 24-inch Hamilton-Corliss non-condensing engine.

The wood-shop contains thirty benches, each with a complete set of bench tools, and twenty-two lathes, each with a complete set of wood-turning tools. Besides these there is a band saw, jig saw, two circular saw tables, a trimmer, and a grindstone.

The foundry contains a 30-inch cupola furnace, having a capacity of a ton of metal per hour, a brass furnace, twelve complete sets of molder's tools, twelve benches, besides the ladles, flasks, clamps, core oven, pattern rack, and other equipment such as used in practical foundry operation.

The blacksmith shop is equipped with fifteen down draft forges. With each forge there is a set of blacksmith tools. A power hammer is available for heavy work.

The machine shop contains seven lathes, one milling machine, one planer, one shaper two drilling machines, one dry emery grinder, one wet emery grinder, one universal grinding machine, two sensitive drills, twelve vises for bench work in metal, an air compressor, some pneumatic tools, and a small punch press.

The tool room is equipped with a varied assortment of such tools and supplies as are used in the shops. In connection with the shops there is a wash-room containing lockers for the accommodation of the students.

There are two boiler-houses. One contains 50 H. P. Babcock and Wilcox water tube boiler and a No 3 Dean steam pump. The other contains a 55-H P. tubular boiler and a No. 3 Davidson steam pump.

The main engineering laboratory is equipped with steam engine and gas engine indicators, planimeters, steam guages, pyrometers, reducing motions, scales micrometers, tachometers, watermeters, etc It contains a 40-H. P. Houston, Stanwood & Gamble cross compound, throttling engine, a 25-H. P. automatic cut-off high speed engine, a 10-H. P. Corliss engine, a 35-H. P. Buffalo Forge Company engine, a 35-H. P. Westinghouse compound engine, and a 4-H. P. Fairbanks-Morse gas engine. The above equipment is used in connection with the boilers, in experimental work in heat engineering.

For experimental work in connection with the study of analytical mechanics, there is a 100,000 pound Riehle testing machine, with an extensometer, besides a Flather dynamometer.

For the experimental work in electrical engineering, there are, in the main laboratory, a 10 K. W. d. c., Crocker-Wheeler dynamo, an 8.5 K. W. d. c., Edison dynamo, a 9 K. W. d. c. electric dynamo, a 35 K. W. d. c. electric motor, a K. W. d c. dynamo, besides other small motors. There is a switch-board on which the necessary instruments are mounted The switch-board is built so that, by means of plug connections, any generator

may be applied to any load. Besides the switch-board instruments, there is a varied assortment of portable instruments, voltmeter, ammeters, and wattmeters.

In the auxiliary laboratory there is an electric blue printing machine, a photometer, a small telephone switch-board, galvanometers, Wheatstone bridges, an assortment of coils for investigating alternating current phenomena, a small storage battery.

The equipment of the department, as a whole, is such that many interesting phases of engineering may be investigated. For instance, the telephone equipment, while not elaborate, is sufficient to give a clear insight into the operation of modern telephone systems. The aim of the department is to train young men to be competent, efficient engineers, and the equipment is used with that end in view.

It is the custom to visit the power houses and telephone exchanges of Lexington and vicinity, so as to keep in touch with practical engineering.

### COURSE OF STUDY.

The practical work extends over a period of two years, and includes the experience in the wood-shop, machine-shop, foundry, and forge-shop. During this period the class-room work and drawing are preparatory to the theoretical studies taken up during the third and fourth years. The course in Mechanical Engineering, as administered at Kentucky State College, may be considered as being divided into three parts, as follows .

1. *Mechanical Engineering Proper.* Under this heading come the studies of steam engineering practice, the operation and design of gas engines and producers, and the operation and design of manufacturing machinery.

2. *Chemical Engineering.* This is intended especially for those who will go into the making of iron and steel, and involves study of the various methods of analysis of iron, steel, coals, fluxes, and refractory substances

3. *Electrical Engineering.* This involves the study of the design and operation of electrical apparatus and machinery.

Of course the foregoing is a general classification. Each of the subjects mentioned permits of further subdivision, to suit the needs of the student.

### DEGREES.

The courses of study in Mechanical and Electrical Engineering all lead to the degree B. M. E. (Bachelor of Mechanical Engineering). The advanced degree, M. E. (Mechanical Engineer), may be obtained by a resident student in one year after taking the degree of B. M. E. from the State College of Kentucky, or any other institution of equal requirements, provided he has done the work assigned him satisfactorily, passed his examination, and presented an acceptable thesis.

A non-resident student may obtain the degree of M. E. three years after graduation, if he has been engaged in practical engineering work during that time, passes an examination, and presents an acceptable thesis. At least two years' notice must be given to the Faculty that post-graduate work is to be done, and the work must be approved by the Faculty.

## Curriculum.

### FRESHMAN YEAR.

*Technical Instruction*—Twenty-six weeks, three hours per week. (*a*) Recitation on the forms of wood-working tools and the cutting and peculiarities of timber. (*b*) Lectures on the operation of the various forms of wood-working machinery. (*c*) Lectures on pattern-making, molding and casting.

*Mechanical and Free-Hand Drawing*—Twenty-six weeks, six hours per week, and ten weeks, ten hours per week. (*a*) This drawing includes free-hand sketches, drawing from copies and models, using parts of machines in the Mechanical Laboratories as models. (*b*) Free-hand lettering. (*c*) Exercises in tinting and shading. (*d*) Tracing. (*e*) Blue-printing.

*Shop-work*—Thirty-six weeks, twelve hours per week. (*a*) Bench-work in wood, including exercises in the following operations: Planing, sawing, rabeting, plowing, notching, splicing, mortising, tenoning, dove-tailing, framing, paneling, and the general use of carpenters' tools. (*b*) Wood-turning, involving the various principles of lathe-work in wood. (*c*) Pattern-making, which gives the student experience in the construction of patterns for foundry work. (*d*) Foundry work, including the various operations of molding, core-making, and the melting of iron and brass.

*English*—Thirty-six weeks, five hours per week.

*Algebra*—Ten weeks, five hours per week.

*Solid Geometry*—Nine weeks, five hours per week.

*Trigonometry*—Thirteen weeks, five hours per week.

*Physics*—Twenty weeks, five hours per week.

### SOPHOMORE YEAR.

*Mechanical Drawing*—Sixteen weeks, four hours per week; sixteen weeks, five hours per week. (*a*) Drawing the parts of machines and complete machines to scale. (*b*) Isometric and Descriptive Geometry, problems. (*c*) Design of machine details

*Shop-work*—Thirty-six weeks, twelve hours per week. (*a*) Exercises in iron and steel forging. (*b*) Exercises in vise-work in metal. (*c*) General machine work; including screw-cutting, drilling, planing, and the milling of iron, brass, and steel.

*Descriptive Geometry*—Nineteen weeks, five hours per week.

*Physical Laboratory*—Seventeen weeks, five hours per week.

*Analytical Geometry*—Thirty-two weeks, five hours per week.

*Chemistry*—Nineteen weeks, five hours per week.

*Surveying*—Nineteen weeks, three hours per week.

*Metallurgy*—Twelve weeks, six hours per week. The above includes the study of fuel and refractory substances, and the process employed in puddling iron and making steel.

*Calculus*—Ten weeks, five hours per week.

*Electricity and Magnetism.*—Nineteen weeks, five hours per week.

### JUNIOR YEAR.

*Kinematics*—Fifteen weeks, five hours per week. Under this head are studied the velocity ratios in various motions, construction of gears, cams, quick-return motions, and the manner of designing trains of mechanism.

*Mechanical Drawing*—Thirty-six weeks, ten honrs per week. The work consists of : Kinematic Drawing, including spur, bevel, worm and spiral gearing; Design of Shop Machines, such as lathes, planers, shapers, drills, etc., including an original design by each student of some shop machine complete, with all detail drawings.

*Chemical Laboratory*—Fifteen weeks, six hours per week.

*Analytical Mechanics*—Twenty weeks, five hours per week.

*Strength of Materials*—Fifteen weeks, five hours per week.

*Experimental Engineering Laboratory*—Ten weeks, six hours per week.

*Elements of Electrical Engineering*—Fifteen weeks, five hours per week.

*Graphic Statics*—Ten weeks, five hours per week.

*Calculus*—Twenty-two weeks, five hours per week.

*Electrodynamic Machinery*—Ten weeks, five hours per week.

*Theory of Machine Design*—Ten weeks, five hours per week.

*Dynamo and Motor Design*—Ten weeks, eight hours per week.

*Electrical Appliances*—Ten weeks, five hours per week.

### SENIOR YEAR.

*Thermodynamics*—Fifteen weeks, three hours per week. This work consists of a study of the laws of thermodynamics, thermal capacities, and the application of thermodynamics to the steam engine.

*Steam Boilers*—Ten weeks, five hours per week. A study of the various commercial steam-boilers, consumption of fuel, incrustations, determining the horse-power of boilers, boiler tests, the design of boilers for efficiency and economy, and the methods of transmission.

*Valve Gearing*—Fifteen weeks, five hours per week. The study of various forms of standard engine valves and methods of designing.

*Hydraulics*—Fifteen weeks, two hours per week.

*Alternating Currents*—Seventeen weeks, five hours per week.

*Mechanical Drawing*—Seventeen weeks, ten hours per week. This consists in working out valve gear problems.

*Engine aud Machine Designing*—Fifteen weeks, five hours per week. A study of the modern methods of designing engines, boilers and machines.

*Experimental Engineering*—Fifteen weeks, ten hours per week. This includes a study of the steam-engine indicator, making engine boiler, and materials for construction tests, and experimental work in electrical engineering.

*Political Economy*—Ten weeks, five hours per week.

*Theory and Practice of Photography*—Ten weeks, five hours per week.

*Electrical Design*—Nineteen weeks, three hours per week.

*History*—Twenty weeks, five hours per week.

*Dynamometers and Measurement of Power*—Twelve weeks, five hours per week.

*Thesis Work*—Nineteen weeks, twelve hours per week.

Every student, before he attains the degree of B. M. E., must present a satisfactory thesis on some new design of a machine, or an original investigation.

The greater part of the second and third terms of the Senior year is given to the preparation of this thesis. The subjects for theses are assigned to students by the Dean of the Mechanical and Electrical Engineering Faculty, and the completed theses are kept on file with the college records, that they may serve as a reference for future investigators.

### JUNIOR AND SENIOR INSPECTION TRIP.

Annual trips, for the purpose of inspecting manufacturing and power plants, are taken by the Junior and Senior Classes. The Juniors, for several years, have visited Cincinnati, Hamilton and Dayton. During the last three years the Seniors have visited Chicago and its vicinity on the annual trip.

During the Spring Term, four days are set apart for the Junior trip and six for the Senior. The experiences of these trips are considered to be among the most valuable of the engineer's collegiate life.

### SUMMER SCHOOL OF MECHANIC ARTS.

The regular curriculum in Mechanical and Electrical Engineering has no elective course. In order to provide opportunity for instruction in them, a Summer School has been established, which continues in session ten weeks. In this school instruction is given in all the subjects taught in the regular course of Mechanical and Electrical Engineering, as well as in elective courses of the Mechanic Arts.

The Summer School is designed especially for technical students, locomotive engineers and firemen, stationary engineers, artisans and mechanics. Special attention is paid to courses in Mechanical Drawing, Machine Design and Shop-work.

## XIII. DEPARTMENT OF ANATOMY AND PHYSIOLOGY.

DR. PRYOR.

The Department of Anatomy and Physiology occupies one half of the second floor of the Natural Science Building. The space assigned to this Department includes a large lecture and general recitation-room, an office, and a laboratory.

The lecture-room is provided with a Colt's Criterion Stereopticon with a microscopic attachment. Arrangements are made to darken the room for the use of the lantern. This method of giving illustrated lectures is extensively used. A large number of lantern slides have been purchased or made. These include all kinds of anatomical, physiological, histological and path-

ological subjects, and they have been selected in order to show not only human anatomy but sufficient comparative anatomy to illustrate the development and evolution of the organ or system.

This method of instruction is quite popular with students. It affords a detail not to be obtained from models or charts or from subjects for dissection.

The lecture and general recitation-room is perhaps the best equipped room for its purpose to be found in any institution of the South. It is well lighted and ventilated, is provided with the best opera chairs with arm rests, affording every convenience and facility for student and lecturer.

The office contains the nucleus of a library. It is the purpose of the head of this Department to provide students with the latest and best books on Anatomy, Physiology, Hygiene, Histology, and Bacteriology.

The laboratory is provided with a Bausch and Lomb incubator, microscopes, microtomes, paraffin bath, etc. Tables are provided for individual students. Each table is equipped with the apparatus necessary for experimental work in Physiology. Students also have access to and use the kymograph, artificial circulation scheme (Porter's) capillary electrometer artificial eye (Kühne's), heart-holder, orgograph, rheochord, plethysmograph, tambour, signal magnet, etc.

The Department is supplied with all kinds of models, such as an Auzoux papier-mach manikin, Auzoux's models of the eye in full and in section, models of the ear, larnyx, side of the face, hand, etc.; skeletons in full and in section; complete disarticulated skeletons for the individual use of students; a spaced skull; a Thoma-Zeiss Hæmacytometer; a Dudgeon's and a Marey's Sphygmograph; charts of all kinds, microscopes, etc. Microscopic slides are exhibited, showing the process of karyokinesis.

The method of instruction is by lectures, demonstrations and recitations. Drawings are made on the blackboard in chalk by the instructor, and the student is required to copy them. They include drawings of the heart and of the great blood-vessels in colors; sections of the eye showing the connection of the cornea and sclerotic coat at the origin of the ciliary muscle, one turn of the cochlea giving the organ of Corti in full; the membranous labyrinth; a cross section of the spinal cord; a scheme illustrating the system of neurones, central and peripheral, both motor and sensory.

The student is required to take notes from lectures, to copy and preserve them for study and reference. The note books are inspected at intervals, correct spelling and neatness in preparing them being insisted on.

All students who take the course leading to the degree of B. S. are required to attend lectures two terms of twenty weeks, five hours per week, during the Freshman year, and one term of fifteen weeks during the Sophomore year. The same amount of work is required of candidates for the degrees of B. Ped. and B. Agr. Candidates for the degree of A. B. are required to attend during the first term of the Sophomore year Two classes for ten weeks are organized at the beginning of the second term for the benefit of Normal students who take the studies leading to the County Certificate.

## COURSE PREPARATORY TO THE STUDY OF MEDICINE.

This course, leading to the degree of B. S., with Anatomy and Physiology as the major study, is arranged to suit students who intend to enter upon a profession, and especially those who are to devote themselves to the study of medicine.

The studies of the Freshman and Sophomore years are identical with those of the other scientific courses, except that there is an additional course in Botany during the third term of the Sophomore year, and an additional course in Physics in the afternoon of that term. Students who take this course have the advantage of work in the X-rays.

The principal differentiation from the other scientific courses is found in the Junior and Senior years. The first term of the Junior is devoted to the following studies: Systematic Zoölogy, Osteology, French, and laboratory work in Chemistry, the second term to Organic Chemistry, Osteology, French, and laboratory work in Zoölogy; and the third term to Physical Chemistry, Osteology, French, and Physiological Chemistry. The first term of the Senior year is devoted to French, History, Logic, Geology, and laboratory work in Physiology; the second term to Entomology, History, Metaphysics, Physiology, and thesis work; and the third term, to Entomology-Political Economy, Moral Philosophy, Physiology, and Embryology.

*The Laboratory Course in Physiology*—Is required of Seniors during the first term in the afternoon from 2.30 to 4:30. The work begins with the central nervous system. The first exercise begins with the study of the normal frog; its posture when at rest; its movements when in water and on solids; compensatory movements, etc. A careful dissection of the frog's brain and drawings of it are made. Then follow experiments upon decerebrized frogs. Perfect cleanliness and aseptic surgical methods are observed as nearly as possible. Reflex action and inhibition of reflexes are studied with the pithed frog. The crayfish and earthworm are also used in the study of the central nervous system.

*Muscle*—The student must familiarize himself with the electrical apparatus necessary for the work that follows; nerve muscle preparations are made, the different kinds of stimuli are studied, graphic records are made with the kymograph, showing certain pheuomena of muscular contraction, among them a single muscular contraction or twitch ; the effect of load ; repeated stimulation ; summation of stimuli ; superposition in tetanus, etc.

*Haemodynamics*—The artificial scheme used, which illustrates the mechanics of the circulation in the higher vertebrates, demonstrates arterial and venous pressure, and this is measured with mercury manometer. The scheme also shows the conversion of an intermittent stream into a continuous flow. Incompetence and stenosis of the mitral and aortic valves are demonstrated and with the thistle tube and kymograph pulse-tracings are made that compare favorably with those made with the sphygmograph by members of the class. Abnormal cases are often included.

*Normal Haematology*—Clinical examinations of the blood are made, including the enumeration of the blood corpuscles with the Thoma-Zeiss haemacytometer; the estimation of haemoglobin with Fleischl's haemometer; the staining and fixing of blood corpuscles; the reaction and specific gravity of blood, etc.

*The Special Senses*—The anatomy, gross and minute, of the eye and ear, and the physiology of these organs, are treated as fully as the time permits. During the year students dissect such mammals (dog, cat, and rabbit) as may be used to illustrate the lectures preceding and accompanying the practical work. Especial attention is given to the gross anatomy of the viscera, thoracic, abdominal and pelvic.

Every effort is made to stimulate and maintain interest throughout the course.

The students who complete the four years' course will be credited with one year's work at many of the Medical Colleges belonging to the American Association of Medical Colleges. Credit is also given for other work done. To a prospective student of medicine the advantages of this course can hardly be estimated. The additional training in Botany, Physics, Zoölogy, Osteology, Embryology, Chemistry, Physiological Chemistry, and in experimental and laboratory work in Physiology, places him far in advance of those who have not pursued these studies.

As a prerequisite to entrance upon this course, students must have completed the Classical Course of the Academy, or its equivalent.

To those who are to become students of medicine, this Department. offers inducements rarely enjoyed in educational institutions.

*Text-books:* Martin's Human Body, Stewart's Manual, Syllabus of the Professor's lectures.

*Books of Reference:* Gray's Anatomy, Gerrish's Anatomy, Shaefer's Physiology, Hall's Physiology. American Text-Book, Loeb's Physiology of the Brain.

## XIV, XV. DEPARTMENTS OF GEOLOGY AND ZOÖLOGY.

PROFESSOR MILLER.

### Geology.

#### EQUIPMENT AND FACILITIES.

This Department occupies one-half of the second floor of the Natural Science Building.

The Geological Laboratory is fitted up with tables and chairs and contains the study-collection of fossils and minerals.

The Mineralogical Laboratory is arranged in its furnishings with special reference to its use as a mineral-testing laboratory.

The Geological Lecture Room, furnished with folding lecture-room seats, tables, lantern stands, sliding blackboard, wall screen, and means for quickly darkening the room, is admirably adapted for recitation and lecture uses.

The collections in Mineralogy and Palæontology are arranged and classified with special reference to their use in class instruction.

The Museum, occupying the entire third floor of the building, now contains the State Geological Survey Collection, a valuable addition to the instruction facilities of this Department.

As additional equipment may be mentioned the Department library of geological literature, consisting of Reports, both State and National, maps, charts, models, lantern slides, and photographic illustrations.

In addition to the facilities afforded by the in-door equipment, the situation of the College itself happens to be peculiarly favorable from a geological standpoint. Located as it is in the center of the Blue-grass Region, at the base of the Geological Series of the State, it affords logically the best starting-point for the student of Kentucky geology who would gain a clear comprehension of how the rock foundations of his State have been laid. Both for this reason, therefore, and because geology is pre-eminently an out-door study, the "Excursion" is made a prominent feature of the instruction in this Department. It is by the field work these excursions afford that the student's ability to apply in-door knowledge previously acquired is put to the test, and his powers of making generalizations in the open air are exercised.

### BRANCHES OF STUDY.

The general order of succession in the geological studies is as follows: (1) Palæontology; (2) Mineralogy; (3) Advanced Geology. Besides these, in which what follows is intimately based upon what precedes, are two self-contained studies; (4) A Shorter Course in Geology and (5) Economic Geology.

### I. PALAEONTOLOGY.

SECOND TERM—Required of Juniors who elect as their major study Geology, Botany, Zoölogy, Anatomy and Physiology, or Pedagogy.

Lectures on the nature and zoölogical positions of different fossil groups are given, and the student is expected to become familiar with the fossils themselves by actual examination. Special attention is paid to fossils, common in Kentucky. The collections of the department are well suited for this purpose. The instruction is entirely by lectures and laboratory work.

### II. MINERALOGY.

THIRD TERM—This study follows Palæontology, and is required of the same students, with the addition of those who elect Agriculture as their major.

The object of the study is to render the students familiar with the composition and physical characters of those common minerals and rocks likely to be met with both in course of every-day observation and in geological pursuits. The instruction involves both laboratory and text-book work. Crosby's Tables for Determination and his Common Minerals and Rocks are the books used.

### III. ADVANCED GEOLOGY.

First Term—Required of students who elect as their major study Geology, Botany, Zoölogy, or Pedagogy.

Candidates for A. B. may take this or course IV.

It is meant to be the culmination for those who have availed themselves of all the opportunities for the study of Geology offered in this Department. It is to be hoped that some of these students may be induced to go further, and either in their home localities or elsewhere make a beginning of doing original work. Kentucky, with its large amount of territory practically unexplored geologically, offers an especially fine field to young geologists.

*Text-book:* Scott's Introduction to the Study of Geology.

### IV. SHORTER COURSE IN GEOLOGY.

First Term—For Seniors who are candidates for the degree of A. B. The only prerequisite for this course is the second term of Zoölogy.

*Text-book:* Brigham's Text-book of Geology.

Second Term—Required of students who elect as their major study Geology, Agriculture, Chemistry, Physics, Civil Engineering, or Mining Engineering.

As the name indicates, it is the practical or inorganic rather than the organic side of Geology that is here made prominent. Historical Geology is studied briefly and in outline. Fossils are considered important in so far as they serve to determine rocks, whereas in General and Biological Geology the reverse may be considered true. Structural Geology becomes relatively important, and Mineralogy and Lithology occupy a leading place. Some of the topics of economic importance treated are: Common Rocks and Vein-forming minerals; Origin of Ore Deposits; Mining Terms and Methods; Coal; Petroleum; Natural Gas and Asphaltums; Building Stone, Clay, and Cement; Geological Fertilizers; Relation of Geology to Agriculture; Relation of Geology to Engineering.

*Text-book:* Tarr's Economic Geology, supplemented by lectures.

In addition to the above, a course of about seven lectures on the Relation of Geology to Agriculture is given in connection with the Short Course in Agriculture.

## Zoölogy.

### EQUIPMENT AND FACILITIES.

The Department of Zoölogy occupies two rooms on the first floor of the Natural History Building. These rooms are provided with tables and a special set of apparatus, including compound microscopes, for each student. Besides this there is a complete general equipment for all lines of zoölogical work, such as a full set of zoölogical charts, imported from Germany for use in the study of systematic Zoölogy; microtomes and paraffin baths for work in microscopy; a selection of type skeletons to illustrate osteology; alcoholic specimens of both marine and inland forms to illustrate general Zoölogy, with duplicates for class dissections; and finally the Department is

equipped with a library of standard zoölogical literature, including the leading periodicals devoted to the interests of biological science. Moreover, opportunities for collecting zoölogical material, as well as for studying the habits of living animals, are afforded by the "Excursions" mentioned above.

### BRANCHES OF STUDY.

These are six, enumerated as follows: (1) Systematic Zoölogy; (2) Laboratory Zoölogy; (2) Osteology; (4) Embryology; (5) Physiological Psychology; (6) Economic Entomology.

### I. SYSTEMATIC ZOÖLOGY.

FIRST TERM—Required of students who elect as their major study Geology, Zoölogy, Botany, Agriculture, Chemistry, Pedagogy, Anatomy and Physiology, or Physics.

A general presentation of the subject is here attempted. The practical work is limited to that which can be satisfactorily accomplished in exercises of one hour each. Alternating with lectures on the different sub-kingdoms, classes and orders of animals, accompanied with some species determination by the student, a text-book, Arthur Thompson's Animal Life, is used to present to the class in a form suitable for discussion such interesting topics of Biology as Interrelation of Plants and Animals, the Struggle for Existence, Coloration of Animals, Social Life of Animals, Protoplasm, Origin of Life, Physiological Division of Labor, Animal Psychology, Principles of Embryology, The Past History of Animals, The Doctrine of Evolution, Heredity, Animal Life, and ours.

### II. LABORATORY ZOÖLOGY.

SECOND TERM—Required of those who elect as their major study Zoölogy, Geology, Botany, Pedagogy, Anatomy and Physiology, or Agriculture.

The work of this term consists largely of animal dissection, and it also involves an extensive use of the compound microscope. Students are taught not only how to examine under the microscope living organisms of small size, but also to prepare these and the tissues of higher animals as permanent mounts for microscopical study.

*Laboratory Text-book:* Needham's Zoölogy, furnished to each student as a part of the equipment, for the use of which a small fee is charged.

THIRD TERM—This term is devoted to laboratory work exclusively, and this consists of a thorough study of the anatomy and development of some vertebrate, as the frog.

### III. OSTEOLOGY.

FIRST TERM—Required of students who elect as their major study Zoölogy, Anatomy and Physiology, or Geology.

Five hours a week are given to the comparative study of the vertebrate skeleton—chiefly that of Mammalia.

*Text-book:* Fowler's Osteology of the Mammalia.

### IV. EMBRYOLOGY.

THIRD TERM—Required of Juniors who elect as their major study Zoölogy, Anatomy and Physiology or Agriculture.

Five hours a week are assigned for this study. Instruction consists of lectures upon the general facts and principles of Embryology, accompanied by practical work on the embryonic development of such vertebrates as the frog and chick.

*Text-book:* Balfour's Elements of Embryology.

## XVI. DEPARTMENT OF PHYSICS.

PROFESSOR PENCE.

### EQUIPMENT AND FACILITIES.

The Department of Physics occupies three rooms in the basement of the main College building. The principal lecture-room is eighteen feet by forty-four feet. The laboratory is twenty feet by twenty-four feet. The third room is twenty feet by twenty-four feet, and is used for both lecture and laboratory work. These rooms are furnished with seats, cases for apparatus, working tables, electricity, gas, water, and drainage. One table is on piers. There is also a dark room.

The equipment of apparatus for experimental and demonstrative work is worth about $3,000. Some of the better pieces are a Geissler mercury air pump, delicate balances, a *Societe Genevoise* spectrometer, a Michelson interferometer, fine Wheatstone bridges and resistance sets, galvanometers, magnetometer, voltameters, voltmeters, ammeters, a motor-generator with normal output of twenty amperes under twenty-five volts, a storage battery with normal output of ten amperes under twenty-five volts, a fine X-ray outfit with a fifteen inch spark induction coil from Queen & Co. There is also a good library, which contains some of the best standard works on Physics, and some of the best current scientific literature.

### COURSE IN PHYSICS.

The course in Physics is offered to those who may find in its schedule of studies on page —, lines of work which pursued will enable them to enter successfully on some life profession. It is intended for those whose natural tastes and abilities lead them to pursue such studies, as well as for those who wish to teach Physics, or to do other work in Physical Science. In the present highly scientific age, the greatest developments are being made in Physical Science, and those who are best able to utilize physical resources are those who are best able to recognize physical laws and accurately interpret physical phenomena.

The course is not strictly technical, but is broadly scientific. As seen in the schedule of studies, three years are devoted to Theoretical and Experimental Physics, three and one-half to Mathematics and Astronomy, two to English, two to German, and one each to Chemistry, Physiology, Botany, and French. One year is also given to History and Political Economy, and one to Logic, Mental and Moral Philosophy. Four months are assigned to Zoölogy, and four to Geology.

## Course of Instruction.

### FRESHMAN.

SECOND AND THIRD TERMS—Text-book: Twenty weeks, one hour daily. For students in Civil, Mechanical, and Mining Engineering.

*Text-book:* Gage's Elements of Physics.

### SOPHOMORE.

FIRST TERM—Text-book: Fifteen weeks, one hour daily. For students in Pedagogy, Agriculture, and in the Science courses.

*Text-book:* Carhart and Chute's High-School Physics.

Laboratory: Fifteen weeks, one hour daily. Elementary experiments in the Mechanics of Solids, Liquids, and Gases, and in Heat. For students in Civil, Mechanical, and Mining Engineering.

*Text-book:* Gage's Physical Experiments.

SECOND TERM—Laboratory: Ten weeks one and one-half hours daily. (1) Experiments in Sound, Light, Electricity, and Magnetism. For students in Mining Engineering. (2) Experiments in the Mechanics of Solids, Liquids and Gases, and in heat. For students in Pedagogy, and in the Science courses.

*Text-book:* Gage's Physical Experiments.

SECOND AND THIRD TERMS—Text-book: Twenty weeks, one hour daily. For students in the Arts course.

*Text-book:* Gage's Elements of Physics.

Text-book and lectures: Twenty weeks, one hour daily. Electricity and Magnetism. For students in Civil, Mechanical, and Mining Engineering.

*Text-book:* To be selected.

THIRD TERM—Laboratory: Ten weeks, one and one-half hours daily. Experiments in Sound, Light, Electricity and Magnetism. For students whose major study is Anatomy and Physiology, Pedagogy, Chemistry or Physics.

*Text-book:* Gage's Physical Experiments.

### JUNIOR.

FIRST TERM—Text-book and lectures: Fifteen weeks, one hour daily. Electricity and Magnetism*.

*Text-book:* S. P. Thompson's Electricity and Magnetism.

SECOND TERM—Text-book and lectures: Ten weeks, one hour daily. Heat*.

*Text-book:* Cumming's Heat.

SECOND AND THIRD TERMS—Laboratory: Twenty weeks, one and one-half hours daily. Physical Measurements in Mechanics, Sound and Heat*.

*Text-book:* Sabine's Physical Measurements.

THIRD TERM—Text-book and lectures: Ten weeks, one hour daily. Light*.

*Text-book:* Glazebrook's Light.

SENIOR.

First Term—Laboratory: Fifteen weeks, one and one-half hours daily. Physcical Measurements in Light, Electricity and Magnetism*.

*Text-book:* Sabine's Physical Measurements.

Second and Third Terms—Thesis*.

*For students whose major study is Physics.

## XVII. DEPARTMENT OF ENTOMOLOGY.

PROFESSOR MILLER, MISS McCANN.

The purpose of the work done in this Department, is to place in the hands of students who expect to make farming their occupation, and of others, the means of defense against loss from the depredations of injurious insects.

Required of Juniors in the Agricultural course, and of Seniors in the Scientific courses in which Botany and Zoölogy are major studies.

Second Term—Laboratory work, Physiology, internal anatomy, classification. Five hours a week.

Third Term—Reading, discussion, and laboratory work. Breeding, life-histories, habits, economy, ecology, determination of species, literature, methods. Three hours a week.

The Scientific Course, with Entomology as a major study, is intended to fit those who pursue it for the work in entomology required in agricultural colleges.

## XVIII. DEPARTMENT OF MINING ENGINEERING.

PROFESSOR NORWOOD,

State Inspector of Mines and State Geologist.

The establishment of this School was authorized by an Act of the General Assembly, Session of 1898. The course is laid out with the design of affording the student a thoroughly good foundation for professional work in Mining, Metallurgy, Assaying and Geology, and of so preparing him that he may readily and quickly assimilate that knowledge of the details of practice which may be gained only through experience. The effort is made to acquaint the student not only with the methods of mining and mine management in particular, but to give him such instruction in mechanical and civil engineering as may satisfy the needs of the modern mining engineer. The schedule of studies for the first two years, while distinctive in some minor respects, upon the whole is closely similar to those followed during the same years in the Schools of Mechanical Engineering and of Civil Engineering. Actual differentiation occurs at the entrance of the Junior year.

The instruction in the special theme of Mining (including both coal and metal), which begins with the Junior year, is laid out along a continuous

line, each subject being introductory to that which follows, and is given by lectures, supplemented by text-books and special reading. The School is equipped with an excellent electric light stereopticon, and a reflectoscope, with a large number of special slides for illustrating lectures; in addition thereto many charts, photographs, and "blue prints," illustrating mining methods and mining machinery, have been procured. The equipment for lecture-room demonstrations also includes a working model of a mine hoist, with safety-catch for cages; a Vajen-Bader head protector for use in exploring mines filled with noxious gases (by courtesy of the Vajen-Bader Company); safety lamps of various styles, and apparatus for measuring ventilation. For the more elaborate study of mine gases, the School has the use of the apparatus provided for the office of the State Inspector of Mines. A general statement of the subjects discussed under the head of Mining is given under the appropriate years following.

Opportunity for practice in mine surveying is afforded at the coal mines and at the vein mines (lead, zinc, and spar) within short distance from Lexington. The mine maps filed by the various companies with the State Inspector of Mines are at the service of the student for study and comparison. The instruments provided for the study of mine surveying include a transit, a level, plummet lamps, a "hanging compass" and accessories (for "string survey" of pitching deposits), and apparatus for surveying bore-holes.

In Chemistry three terms are required. In the Sophomore year the course consists of lectures and recitations on the non-metals and their compounds, and the simpler laws of chemical change. In the Junior year, the first term is devoted to the study of the metals and their more important compounds, and to qualitative analysis Laboratory work in quantitative analysis is taken up in the third term.

In Metallurgy and Ore Dressing three terms of work are required. The first term is given to a general study of the metallurgy of nine or ten metals, including iron, copper, zinc, tin, lead, nickel, cobalt, silver and gold. Huntington and Macmillan's text-book is used as a guide. The instruction is given in the Sophomore year, by the Professor of Chemistry. The work of the second term, which occurs in the Junior year, includes a more particular study of certain processes for the extraction of silver and gold, such as the amalgamation, chlorination and cyanide processes, together with assaying. For the present, this work will be carried on in the Mining Laboratory, under the supervision of the Professor of Mining. The third term is devoted to the study of the various processes of separating and concentrating ores and other useful minerals, and includes work in the Mining Laboratory.

The course in mining is made as "practical" as the limitations of college instruction permit. With this in view, the equipment project for the Mining Laboratory includes the installation of such an ore dressing and coal washing plant as will permit work to be conducted along practical lines. It is intended that the Laboratory shall not only serve the purpose of

instruction, but that it shall prove helpful, as a testing laboratory, to those engaged in mining operations in the coal, lead, zinc and spar districts of the State. The present equipment iucludes a standard, full-sized Wilfley Concentrating Table; a Three-stamp Mill, made by the Allie-ChalmersCompany (to whom the School is indebted for generous treatment); a Hallett Hand Jig; a Campbell Coal-washer; a complete model of the St. Bernard Mining Company's coal-washery; and a complete ventilating fan and fan-house The last three were provided through the generosity of Mr. John B. Atkinson, President of the St. Bernard Mining Company, Earlington, Ky. A standard three-compartment Hartz Jig has been promised by a friend of the College. The fan has been so installed that various problems relating to ventilation may readily be studied. The machines are operated by electric motor and gasoline engine. The laboratory equipment also includes an assaying outfit, and apparatus for the study of cyaniding and chlorinating ores. Negotiations for the purchase of an electric concentrator, a crusher, and a set of rolls are in progress.

The State College is exceptionally well situated with reference to the practical study of both coal and metal mining (including lead, zinc and iron), and for the study of metallurgical practice in certain lines, there being within the State numerous coal and metal mines, and several iron and steel metallurgical establishments, within easy reach of Lexington. Practical work in concentrating lead ores may be studied at the Gratz and the Kissinger mines, in near-by counties. At the Gratz mine the plant includes crushers, jigs, a Huntington mill, and Woodbury concentrators. At the Kissinger mine the plant includes crusher, rolls, Huntington mill, Woodbury concentrators, and a smelter. The latter mine may be reached by trolley line and a short drive. Elaborate lead and zinc concentrating plants may be studied in the Western part of the State. Coal-washing and coking may be studied at Ashland, where a Robinson washer is used, and at Earlington, where a Campbell plant is in operation. The copper mines of Tennessee, the iron mines of Virginia, Alabama and Tennessee, and the gold mining regions of Alabama and Georgia, with their accompanying metallurgical plants, may be reached within twenty-four hours or less of travel.

## Course of Study.

The schedule on a succeeding page exhibits the studies that lead to the degree of B. E. M.

The courses are as follows:

### FRESHMAN YEAR.

FIRST TERM—English, Plane Trigonometry, Woodwork (Tools and Machinery), Drawing (Lettering, etc.), Shop-Work (Bench and Lathe).

SECOND TERM——English, Solid Geometry, Physics, Free-hand Drawing, Mechanical Drawing.

THIRD TERM—English, Higher Algebra, Physics, Mechanical Drawing.

### SOPHOMORE YEAR.

First Term—Analytical Geometry, Chemistry, Physical Laboratory, Surveying, Geology, Iron and Steel Forging, Mechanical Drawing.

Second Term—Analytical Geometry, Electricity and Magnetism, Metallurgy, Descriptive Geometry, Drawing, Descriptive Geometric Problems.

Third Term—Analytical Geometry, Calculus, Electricity and Magnetism, Descriptive Geometry, Surveying and Mapping.

### JUNIOR YEAR.

*Electrical Engineering*, first term; Assistant Professor Wilson.

*Calculus concluded*, first and second terms; Professor White.

*Strength of Materials*, first term; Professor Faig.

*Chemistry of Metals*, first term; Professor Palmer.

*Surveying and Mapping*, first term; Professor Brooks.

*Special Metallurgical Processes and Assaying*, second term; Professor Norwood (temporarily).

*Analytical Mechanics*, second and third terms; Professor Faig.

*Dynamo-electric Machinery*, second and third terms; Assistant Professor Wilson.

*Mineralogy*, *Blow-piping*, third term; Professor Miller.

*Quantitative Analysis*, third term; Professor Palmer.

Mining 1. Introductory, Excavating, Quarrying.—(*a*) Objects and definitions: Connection with auxiliary sciences; coal and metal mines compared; mineral rights, etc. (*b*) Excavation in soft ground and in rock: Tools and methods; steam excavators and dredges; by water, etc. (*c*) Explosives and blasting: Kinds and effects of explosives; theory and practice of blasting; placing, charging, and firing holes under various conditions; precautions in blasting; substitutes for explosives (*d*) Quarrying: Plants and methods for various sorts of rock; underground quarries.

Mining 2. Boring, Shaft-Sinking, Shaft-Boring.—(*a*) Boring: Methods with auger, with rods, and with rope; rotary boring, boring tools; casing; recovering lost tools; drive piping. (*b*) Shaft-sinking: General principles. Methods in soft-ground and in rock. Hoisting, ventilating, and draining during sinking. Timbering, walling, tubbing, and linings for special cases. Sinking linings in watery ground and in quicksand. (*c*) Shaft-boring: General observations. Various methods described and compared.

Mining 3. Prospecting, Development, Methods of Working.—(*a*) Mineral deposits: Geological considerations. Relations of ore deposits to country rock; influence upon topography; connection between topographic forms due to geological structure and the existence of veins. General broad classification of mineral deposits, lodes, veins, beds and placers; regular and irregular. Elements defining the nature and mode of occurrence of a deposit. Effect of variability and disturbances of stratified and crystalline rocks. Irregularities and disturbances of beds and veins. Solution of

problems. (*b*) Prospecting: Systematic methods. Value of geology. Tracing outcrops; hillside and stream float; old and existing works; traditions; trenching and flooding; bore-holes, adit levels, pits, cross-cuts. Tracing lodes; effects of cross-courses as to heaves and contents; panning. Dipping needle. (*c*) Exploration and Development: Preliminary questions as to commercial feasibility of working particular deposits. Choice of exploratory methods—shaft, adit, slope. Location of openings with reference to development. Laying out the workings, and order of exploitation. Driving tunnels, drifts, gangways, slopes, levels, cross-cuts. Advancing by single breast and by benches. Maintaining alignment—"sights." Accidents. Upraises—vertical and inclined. Winzes—methods of sinking and raising. (*d*) Methods of Working and of Supporting Excavation: General rules as to choice of mode of working away, etc. Breaking ground (1) in coal mining, and (2) in metal mining. Support of excavations (1) by pillars of mineral, (2) by timbering, (3) by caving and filling. Methods of working applicable to deposits according to their origin, thickness, inclination and character. Coal, Vein, and Mass mining. Open cuts and stream workings. Hydraulic mining. Dredging.

### SENIOR YEAR.

*History and Political Economy*, President Patterson.

*Hydraulics*, first term; Professor Brooks.

*Steam Engine*, *Compressed Air*, first term; Professor Anderson.

*Economic Geology*, second term; Professor Miller.

*Alternating Currents and Power Plants*, second term; Assistant Professor Wilson.

*Mine Plant Design*. (Drawing )

*Thesis work*.

MINING 4. ORE AND COAL DRESSING, MILLING, COAL-WASHING.—General principles and theories. Picking, crushing; theory of mineral separations; sizing, classification, jigging, concentration and concentrators. Coal-washing. Gold and silver milling; stamp and other mills. Amalgamation: Theory and practice; care of mill plates; losses of mercury, etc. Pan amalgamation. "Patent" substitutes for plate amalgamation. Pan assays for free-milling ores, etc.

MINING 5. ORE DRESSING LABORATORY.

MINING 6. MINE SURVEYING.—General principles of underground surveying. Carrying meridian into mine, etc ; locating lines of work; construction of mine maps and sections; plumbing shafts, surveying bore-holes; "string" surveying, etc.

MINING 7. EXTRACTION, VENTILATION, ETC.—Extraction and removal of material: Mine and surface haulage roads; rope and other means of haulage. Hoisting Drainage: Controlling and removing water; dams, drainage levels, air lift. Ventilation: Theoretical considerations; mine gases; methods of ventilation; distribution of air supply. Illumination. Descent

and ascent. Accidents: Causes; places; explosions; safeguards; rescue and relief.

MINING 8. MINE PLANT.—Machinery and appliances for mining, hoisting, draining, ventilating, hauling, screening, loading, storing, etc.

MINING 9. EXAMINATION AND VALUATION OF MINES, ETC.—Methods and precautions in examination and valuation. "Salting," concealing exhausted workings, etc. Relation of capital invested to actual dividends. Mine management. Cost sheets.

MINING 10. MINE VISITATION.—Opportunity for visiting mines under the guidance of the Dean, or of an Assistant Inspector of Mines, will be given at the close of the term.

The larger part of the third term is devoted to thesis work, subjects for which are assigned by the Dean.

# DEGREES.

The State College confers the degrees of—

Bachelor of Science (B. S.),
Bachelor of Arts (A. B.),
Bachelor of Agriculture (B. Agr.),
Bachelor of Civil Engineering (B. C. E.),
Bachelor of Mechanical Engineering (B. M. E.),
Bachelor of Mining Engineering (B. E. M.),
Bachelor of Pedagogy (B. Ped.),
Master of Science (M. S.),
Master of Arts (A. M.),
Master of Agriculture (M. Agr.),
Master of Civil Engineering (C. E.),
Master of Mechanical Engineering (M. E.),
Master of Mining Engineering (E. M.),

## CONDITIONS OF GRADUATION.

To attain the Bachelor's degree the applicant must have been a student of the College at least one session, and he must have passed the examinations on all the courses of study leading to the desired degree.

To attain the Master's degree the applicant must have attained the Bachelor's; he must have pursued, for at least one session in this College or two sessions elsewhere, a major study selected by himself and one or two minor studies assigned him by the Faculty; and finally, he must at least thirty days before the end of the session, have satisfied the Faculty that he is duly proficient in his studies, and have presented to the College an acceptable thesis on his major study or on some part thereof.

If the applicant be an alumnus of another institution of learning, he must satisfy the Faculty that he has completed a course of study for his first degree equivalent to that prescribed in this College for the same degree; and he must matriculate and study under the direction of the Faculty at least one session.

A student who completes a part of any course in a satisfactory manner may, in attestation of the fact, receive a Certificate of Proficiency.

## COURSES GROUPED FOR DEGREES.

### I. COURSES FOR THE DEGREE OF B. S.

| | |
|---|---|
| History, Political Economy, and Metaphysics, | President Patterson. |
| Botany, | Professor Mathews. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Lieutenant Burtt. |
| Chemistry, | Professor Palmer. |
| Mathematics and Astronomy, | Professor White, Dean. |
| The French and German Languages, | Professor Wernicke. |
| Anatomy and Physiology, | Professor Pryor. |
| Geology and Zoölogy, | Professor Miller. |
| Physics, | Professor Pence. |
| Drawing, | Instructor Webb. |

For the degree of M. S., Chemistry, Biology, Geology, Mathematics, or Physics may be selected as major study; and minor studies will be assigned from Biology, Chemistry, Geology, Mathematics, Physics, English, History, Political Economy, Metaphysics, French, and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, CHEMISTRY.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Botany (Entr.) |
| SOPHOMORE. | 1 | Anal. Geom. | German. | Physics. | Physiology. | Drill. | Botany. |
| | 2 | Anal. Geom. | German. | Botany. | *Chemistry.* | Drill. | Physics. |
| | 3 | Anal. Geom. | German. | Calculus. | *Chemistry.* | Drill. | Physics. |
| JUNIOR. | 1 | *Theor. Chemistry.* | *English.* | Calculus. | French. | Drill. | *Chemistry.* |
| | 2 | *Theor. Chemistry.* | *English.* | Calculus. | French. | Drill. | *Chemistry.* |
| | 3 | *Mineralogy.* | *English.* | *Theor. Chemistry.* | French. | Drill. | *Quant. Analysis.* |
| SENIOR. | 1 | Zoölogy. | History. | Logic. | *Chem. Reading.* | Drill. | *Organ. Chemistry.* |
| | 2 | *Quant. Analysis.* | History. | Metaphysics. | *Econ. Geology.* | Drill. | *Chem. Research* |
| | 3 | *Quant. Analysis.* | Polit. Economy. | Mor. Philos. | | Drill. | *Chem. Research Thesis.* |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ZOÖLOGY).

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. | Physics. | Physiology. | Drill. | Botany. |
| | 2 | Analyt. Geom. | Germau. | Botany. | Chemistry. | Drill. | Physics (Lab.) |
| | 3 | Analyt. Geom. | German. | Calculus. | Chemistry. | Drill. | |
| JUNIOR. | 1 | Zoölogy. | Osteology. | Calculus. | French. | Drill. | Chemistry (Lab.) |
| | 2 | Palæontology. | English. | Calculus. | French. | Drill. | Zoölogy (Lab.) |
| | 3 | Mineralogy. | English. | Syst. Botany. | French. | Drill. | Embryology. |
| SENIOR. | 1 | Entomology. | History. | Logic. | Spher. Trigon. Astronomy. | Drill. | Geology. |
| | 2 | Entomology. | History. | Metaphysics. | | Drill. | Thesis. |
| | 3 | Entomology. | Polit. Economy. | Mor. Philosophy. | Astronomy. | Drill. | Thesis. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, GEOLOGY).

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German | Physics. | Physiology. | Drill. | Botany. |
| | 2 | Analyt. Geom. | German. | Botany. | Chemistry. | Drill. | Lab. Physics. |
| | 3 | Analyt. Geom. | German. | Calculus. | Chemistry. | Drill. | |
| JUNIOR. | 1 | Zoölogy. | Osteology. | Calculus. | French. | Drill. | Lab. Chem. |
| | 2 | Palæontology. | Surveying. | Calculus. | French. | Drill. | |
| | 3 | Mineralogy. | | | French. | Drill. | Surveying. |
| SENIOR. | 1 | Thesis. | History. | Logic. | Spher. Trigon.<br>Astronomy. | Drill. | Gen. Geol. |
| | 2 | Mech. Drawing. | History. | Metaphysics. | Geology. | Drill. | Thesis. |
| | 3 | | Polit. Econ. | Moral Philos. | Astronomy. | Drill. | Thesis. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, BOTANY)

| Year | Term | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. | Afternoon. |
|---|---|---|---|---|---|---|---|
| Freshman. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Entr. Botany. |
| Sophomore. | 1 | Analyt. Geom. | German. | Physics. | English. | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German. | Gen. Botany. | Chemistry. | Drill. | Lab. Physics. |
| | 3 | Analyt. Geom. | German. | Syst. Botany. | Chemistry. | Drill. | |
| Junior. | 1 | Zoölogy. | Plant. Histology. | Econom. Botany. | French. | Drill. | Lab. Chemistry. |
| | 2 | Palæontology. | | Econom. Botany. | French. | Drill. | Lab. Zoölogy. |
| | 3 | Mineralogy. | Plant. Physiology. | Econom. Botany. | French. | Drill. | Lab. Zoölogy. |
| Senior. | 1 | | History. | Logic. | Spher. Trigon. Astronomy. | Drill. | Geology. |
| | 2 | Entomology. | History. | Metaphysics. | Thesis. | Drill. | Thesis. |
| | 3 | Entomology. | Polit. Economy. | Mor. Philosophy. | Astronomy. | Drill. | Thesis. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, PHYSICS.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR | THIRD HOUR | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing |
| | 3 | Euglish. | Algebra. | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. | Physics. | Physiology. | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German. | Gen. Botany. | Chemistry. | Drill. | Physics. |
| | 3 | Analyt. Geom. | German. | Calculus. | Chemistry. | Drill. | Physics. |
| JUNIOR. | 1 | Electricity. Magnetism. | English. | Calculus. | French. | Drill. | Chemistry. |
| | 2 | Heat. | English. | Calculus. | French. | Drill. | Physics. |
| | 3 | Light. | English. | | French. | Drill. | Physics. |
| SENIOR. | 1 | Zoölogy. | History. | Logic. | Spher. Trigon. Astronomy. | Drill. | Physics. |
| | 2 | | History. | Metaphysics. | Geology. | Drill. | Thesis. |
| | 3 | | Polit. Economy. | Mor. Philosophy. | Astronomy. | Drill. | Thesis. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ENTOMOLOGY).

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Elem. Entomology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Elem. Entomology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. | Physics. | Physiology. | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German. | Gen. Botany. | Chemistry. | Drill. | Lab. Physics. |
| | 3 | Analyt. Geom. | German. | Syst. Botany. | Chemistry. | Drill. | |
| JUNIOR. | 1 | Zoölogy. | Adv. Entomology. | Adv. Entomology. | French. | Drill. | Lab. Chemistry. |
| | 2 | Palæontology. | Adv. Entomology. | Adv. Entomology. | French. | Drill. | Lab. Chemistry. |
| | 3 | Mineralogy. | Syst. Entomology. | Syst. Entomology | French. | Drill. | Lab. Chemistry. |
| SENIOR. | 1 | Econ. Entomology. | History. | Logic. | Spher. Trigon. Astronomy. | Drill. | Geology. |
| | 2 | Econ. Entomology. | History. | Metaphysics. | Thesis. | Drill. | Thesis. |
| | 3 | Econ. Entomology. | Polit. Economy. | Mor. Philosophy. | Astronomy. | Drill. | Thesis. Photog. |

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ANAT. AND PHYSIOL.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German. | Physics. | Physiology. | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German. | Gen. Botany. | Chemistry. | Drill. | Lab. Physics. |
| | 3 | Analyt. Geom. | German. | Syst. Botany. | Chemistry. | Drill. | Lab. Physics. |
| JUNIOR. | 1 | Zoölogy. | Osteology Comp. | Osteology Human. | French. | Drill. | Lab. Chemistry. |
| | 2 | Organic Chemistry | | Osteology Human. | French. | Drill. | Lab. Zoölogy. |
| | 3 | Physical Chemistry | | Osteology Human. | French. | Drill. | Physiology. Chemistry. |
| SENIOR. | 1 | French. | History. | Logic. | Geology. | Drill. | Lab. Physiolog. |
| | 2 | Entomology. | History. | Metaphysics. | Physiology. Thesis. | Drill. | Thesis. |
| | 3 | Entomology. | Polit. Econ. | Moral Philos. | Physiology. Thesis. | Drill. | Embryology. |

### II. COURSES FOR THE DEGREE OF A. B.

| | |
|---|---|
| History, Political Economy, and Metaphysics, | President Patterson. |
| Botany, | Professor Mathews. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Lieutenant Burtt. |
| Chemistry, | Professor Palmer. |
| Mathematics and Astronomy, | Professor White. |
| The French and German Languages, | Professor Wernicke. |
| The Greek and Latin Languages, | Professor Neville, Dean<br>Ass't Professor Jones. |
| Physiology, | Professor Pryor. |
| Geology and Zoölogy, | Professor Miller. |
| Physics, | Professor Pence. |

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For the Degree of A. M., Greek, Latin, English, History, Mental Science, French, German, or Gothic may be selected as major study; and minors will be assigned from Greek, Latin, English, Mathematics, History, Metaphysics, Political Economy, French and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF A. B. (MAJOR, GREEK AND LATIN).

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | Greek. German. | Latin. | Drill. | |
| | 2 | English. | Solid Geometry. | Greek. German. | Latin. | Drill. | |
| | 3 | English. | Algebra. | Greek. German. | Latin. | Drill. | |
| SOPHOMORE. | 1 | Latin. | Greek. German. | Physiology. | English. | Drill. | |
| | 2 | Latin. | Greek. German. | Physics. | Chemistry. | Drill. | |
| | 3 | Latin. | Greek. German. | Physics. | Chemistry. | Drill. | |
| JUNIOR. | 1 | Analyt. Geom. | English. | Greek. Latin. | French. | Drill. | |
| | 2 | Analyt. Geom. | English. | Greek. Latin. | French. | Drill. | |
| | 3 | Analyt. Geom. | English. | Greek. Latin. | French. | Drill. | Botany. |
| SENIOR. | 1 | Latin. French. | History. | Logic. | Geology. | Drill. | Geology. |
| | 2 | Latin. French. | History. | Metaphysics. | Spher. Trigon. Astronomy. | Drill. | Zoölogy. |
| | 3 | Latin. French. | Polit. Economy. | Mor. Philos. | Astronomy. | Drill. | |

## SCHEDULE OF STUDIES FOR THE DEGREE OF A. B. (MAJOR, ENGLISH.)

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | *English.* | Trigonometry. | Greek. German. | Latin. | Drill. | |
| | 2 | *English.* | Solid Geom. | Greek. German. | Latin. | Drill. | |
| | 3 | *English.* | Algebra. | Greek. German. | Latin. | Drill. | |
| SOPHOMORE. | 1 | Latin. | Greek. German. | Physiology. | *English.* | Drill. | |
| | 2 | Latin. | Greek. German. | Physics. | Chemistry. | Drill. | |
| | 3 | Latin. | Greek. German. | Physics. | Chemistry. | Drill. | Botany. |
| JUNIOR. | 1 | Analyt. Geom. | *English.* | Greek. Latin. | French. | Drill. | *Anglo-Saxon.* |
| | 2 | Analyt. Geom. (Optional.) | *English.* | Greek. Latin. | French. | Drill. | Zoölogy. Anglo-Saxon. |
| | 3 | Analyt. Geom. (Optional.) | *English.* | Greek. Latin. | French. | Drill. | *Anglo-Saxon.* |
| SENIOR. | 1 | French or Latin. Sanskrit or Hebrew. | History. | Logic. | Geology. | Drill. | *Anglo-Saxon.* |
| | 2 | French or Latin. Sanskrit or Hebrew. | History. | Metaphysics. | *Comp. Philol.* | Drill. | *Anglo-Saxon.* |
| | 3 | French or Latin. Sanskrit or Hebrew. | Polit. Econ. | Moral Philos. | *Comp. Philol.* | Drill. | *Thesis.* |

### III. COURSES FOR THE DEGREE OF B. PED

| | |
|---|---|
| History, Political Economy, and Metaphysics,.. | President Patterson. |
| Botany and Horticulture, | Professor Mathews. |
| The English Language and Literature | Professor Mackenzie. |
| Military Science, | Lieutenant Burtt. |
| Chemistry, | Professor Palmer. |
| Mathematics aud Astronomy, | Professor White. |
| Latin Language... | Professor Neville. |
| German, | Professor Wernicke. |
| Pedagogy, | Professor M. White, Dean. |
| | Ass't Professor Noe. |
| Anatomy and Physiology, | Professor Pryor. |
| Geology and Zoölogy, | Professor Miller. |
| Physics, | Professor Pence. |

In case the student is prepared, on entering, to read Cicero, he must take German, First Year, third hour, and Second Year, second hour. Otherwise he must take Latin the First Year, and English the Second Year.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. PED.

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German or Latin. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German or Latin. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German or Latin. | Physiology. | Drill. | Gen. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | German or English. | Physics. | English. | Drill. | Gen. Botany. |
| | 2 | Analyt. Geom. | German or English. | Gen. Botany. | Chemistry. | Drill. | Physics. |
| | 3 | Analyt. Geom. | German or English. | Gen. Pedagogy. | Chemistry. | Drill. | Physics. |
| JUNIOR. | 1 | Zoölogy. | Educat. Psychol. | Logic. | Cicero. | Drill. | Chemistry. |
| | 2 | Palæontology. | City School Problems. | Adv. Psychology. | Livy. | Drill. | |
| | 3 | Mineralogy. | Educat. Economy. | | Livy. | Drill. | Professional Reading. |
| SENIOR. | 1 | Virgil. | History. | Educational Method. | Astronomy. | Drill. | Gen. Geol. |
| | 2 | Virgil. | History. | Metaphysics. | Hist. Educat. | Drill. | Obs. Work in Pedagogy. |
| | 3 | Cicero. Terence. | Polit. Economy. | Mor. Philosophy. | Astronomy. | Drill. | Thesis. |

### IV. COURSES FOR THE DEGREE OF B. M. E.

| | |
|---|---|
| History and Political Economy, | President Patterson. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Lieutenant Burtt. |
| Chemistry, | Professor Palmer. |
| Mathematics, | Professor White. |
| | Ass't Professor Davis. |
| Mechanical Engineering, | Professor Anderson, Dean |
| Machine Design, | Professor Faig. |
| Electrical Engineering, | Ass't Professor Wilson. |
| Physics, | Professor Pence. |
| Shopwork and Drawing, | Instructor Nollau. |
| Experimental Engineering, | Professor Anderson. |
| Surveying, Graphic Statics, and Hydraulics | Professor Brooks. |

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For the Degree of M. E., Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, or Machine Designing may be selected as major study; and minor studies will be assigned from Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, Machine Designing, Mechanical Laboratory Work, Mathematics, Physics, Chemistry, Mental Science, Political Science, English, and Modern Languages.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. M. E.

| YEAR | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. | SATURDAY. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | English. | Trigonometry. | Model and Object Drawing | Woodwork, Machine Design | Drill. | ShopWoodwork Bench, Lathe. | ShopWoodwork Bench, Lathe. |
| | English. | Solid Geometry | Physics. | Pattern-Making Foundry Draw. | Drill. | Pattern-Making Foundry | Pattern-Making |
| | English. | Algebra. | Physics. | Mech. Drawing. | Drill. | Pattern-Making Foundry. | Pattern-Making |
| SOPHOMORE. | Analyt. Geom. | Surveying. | Chemistry. | Physical Lab. | Drill. | Iron and Steel Forging. | Iron and Steel Forging. |
| | Analyt. Geom. | Electricity. Magnetism. | Metallurgy. | Descr Geom. | Drill. | Machine Work | Descrip. Geom. Drawing. |
| | Analyt. Geom. | Electricity. Magnetism. | Calculus. | Descr. Geom. | Drill. | Machine Work Surveying. | Descrip. Geom. Drawing. |
| JUNIOR. | Elementary Electricity. | Mechanics of Materials. | Calculus. | Kinematics Theory of Machine Design. | Drill. | Kinemat. Draw. Machine Design | Kinemat. Draw. |
| | Electrical Design. | Analytic Mechanics. | Calculus. | Dyn. Electric. Machinery. | Drill. | Chemical Laboratory. | Machine Design |
| | Dynamo and Motor Design. | Graph. Statics. | Analytic Mechanics. | Dyn. Elec. Mach, Theory of Machine Design. | Drill. | Machine Design Electric Lab. | Machine Design Electric. Lab. |
| SENIOR. | Thermodynam. Hydraulics. | History. | Altern Currents Dyna. Mot. Des. | Valve Gears. Steam Boilers. | Library. | Valve Design. Electrical Lab. | Steam Lab. |
| | Altern. Currents Power Plant. | History. | Steam Engine. Design. | Dynamometers Pumps. | Library. | Valve Design. Dyna. Mot. Des. | Steam Lab. |
| | Thesis. | Polit. Econ. | Photography | Thesis. | Library. | Thesis. | Thesis. |

## V. COURSES FOR THE DEGREE OF B. C. E.

| | |
|---|---|
| History and Political Economy, | President Patterson. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Lieutenant Burtt. |
| Mathematics and Astronomy, | Professor White. |
| Chemistry, | Professor Palmer. |
| Civil Engineering, | Professor Brooks, Dean. |
| Geology, | Professor Miller. |
| Physics, | Professor Pence. |
| Analytical Mechanics, | Professor Faig. |
| Descriptive Geometry, | Ass't Professor Davis. |
| Mechanical Drawing, | Instructor Nollau. |

For the Degree of C. E., Railways, Structures, Water Power, Municipal or Mining Engineering, Sanitation; Topographical, Geodetic, or Architectural Engineering may be selected as major study; and minors will be assigned from Mathematics, Astronomy, Mechanical Engineering, Geology, Chemistry, Physics, Political Economy, English, French, and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. C. E.

| Year | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. | Afternoon. | Saturday. |
|---|---|---|---|---|---|---|---|
| Freshman. | English. | Trigonometry. | Drawing. | Mech. Drawing. | Drill. | Drawing. | Drawing. |
| | English. | Solid Geom. | Physics. | Mech. Drawing. | Drill. | Drawing. | Drawing. |
| | English. | Algebra. | Physics. | Mech. Drawing. | Drill. | Drawing. | Drawing. |
| Sophomore. | Analyt. Geom. | Surveying. | Chemistry. | Drawing. | Drill. | Physical Lab. | Drawing. |
| | Analyt. Geom. | Electricity. Magnetism. | Metallurgy. | Descr. Geom. | Drill. | Drawing. | Descr. Geom. |
| | Analyt. Geom. | Electricity. Magnetism. | Calculus. | Descr. Geom. | Drill. | Surveying. Mapping. | Surveying. Mapping. |
| Junior. | Design. | Strength of Materials. | Calculus. | Elec. Dyn. Mach Roofs, Bridges | Drill. | Topog. Survey. Mapping. | Topog. Mapping. |
| | Roofs. Bridges. | Analytical Mechanics. | Calculus. | Stone Cutting | Drill. | Chem. Lab. | Drawing. |
| | Roofs. Bridges | Graph. Statics. | Anal. Mechan. | R. R. Survey. | Drill. | R. R. Survey. | R. R. Survey. |
| Senior. | Hydraulics. Geodesy. | History. | Bridge Design. | Astronomy. Construction. Geod. Survey. | Drill. | Geod. Survey. Cement Tests. | Surveying. |
| | Roofs, Bridges, Power Plants. | History. | Sanitary Engineering. | Econ. Geol. | Drill. | Chem. Lab. | Design. |
| | Drawing. | Polit. Econ. | Design. | Astronomy. | Drill. | Thesis. | Thesis. |

## VI. COURSES FOR THE DEGREE OF B. AGR.

| | |
|---|---|
| History, Political Economy, and Metaphysics | President Patterson. |
| Botany and Horticulture | Professor Mathews, De |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science | Lieutenant Burtt. |
| Chemistry, | Professor Palmer. |
| Mathematics and Astronomy, | Professor White. |
| The French and German Languages, | Professor Wernicke. |
| Entomology, | Instructor McCann. |
| Anatomy and Physiology, | Professor Pryor. |
| Geology and Zoölogy, | Professor Miller. |
| Physics, | Professor Pence. |
| Agriculture and Animal Husbandry | Professor Hooper. |
| Drawing, | Instructor Webb. |

For the Degree of M. Agr., General Agriculture, Animal Husbandr Agricultural Chemistry, Horticulture, Entomology, or Economic Botan may be selected as major study; and minors will be assigned from the stud ies above or from Zoölogy, Geology or Botany.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. AGR.

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drill. | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Drill. | Drawing. |
| | 3 | English. | Algebra. | German. | Physiology. | Drill. | Entr. Botany. |
| SOPHOMORE. | 1 | Zoölogy. | German. | Physics. | English. | Drill. | General Botany. |
| | 2 | | Germau. | General Botany. | Chemistry. | Drill. | Zoölogy. |
| | 3 | Mineralogy. | German. | Syst. Botany. | Chemistry. | Drill. | Zoölogy. |
| JUNIOR. | 1 | Soils; Drainage. Forage Crops. | Plant Histology. | Economic Botany. | French. | Drill. | Chemistry (Lab.) |
| | 2 | Entomology. | Horticulture. Cereal Crops. | Study of Breeds. Dairying. | French. | Drill. | Horticulture. Dairying. |
| | 3 | Entomology. Horticulture. | Plant Physiology. | Economic Botany. | French. | Drill. | WoodWorking. Horticulture. |
| SENIOR. | 1 | Agricultural Reading. | History. | Logic. | Vet. Science. Adv. Judging. | | Animal Husbandry. |
| | 2 | Animal Feeding. | History. | Metaphysics. | Economic Geology. | | Thesis. |
| | 3 | Breeding and Management. | Polit. Economy. | Mor. Philosophy. | Astronomy. | | Rural Architecture Thesis. |

## SCHEDULE OF STUDIES FOR THE TWO YEARS' COURSE IN AGRICULTURE.

| Year | Term | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. | Afternoon. |
|---|---|---|---|---|---|---|---|
| First Year. | 1 | English. | Trigonometry. | | Physiology. | Drill. | Gen. Botany. |
| | 2 | English. | Solid Geometry. | Gen. Botany. | Chemistry. | Drill. | Zoölogy. |
| | 3 | English. | | System. Botany. | Chemistry. | Drill. | Zoölogy. |
| Second Year. | 1 | Soils; Drainage. Forage Crops. | Plant Histology. | Econom Botany. | Vet Science. Advanced Judging. | Drill. | Animal Husbandry. |
| | 2 | Entomology. | Cereal Crops. Horticulture. | Dairying. Study of Breeds. | Economic Geology. | Drill. | Horticulture. Field Work. Dairying. |
| | 3 | Horticulture. Entomology. | Plant Physiology. | Econom. Botany. | Astronomy. | Drill. | Rural Architecture |

## VII. COURSES FOR THE DEGREE OF B. E. M.

| | |
|---|---|
| History and Political Economy, | President Patterson. |
| Mining Engineering, Ore Dressing, | Professor Norwood, Dean |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Lieutenant Burtt. |
| Mathematics, | Professor White. |
| Surveying and Hydraulics, | Professor Brooks. |
| Mechanical Engineering, | Professor Anderson. |
| Geology and Mineralogy, | Professor Miller. |
| Chemistry and Metallurgy, | Professor Palmer. |
| Physics, | Professor Pence. |
| Analytical Mechanics, | Professor Faig. |
| Electrical Engineering, | Ass't Professor Wilson. |
| Descriptive Geometry, | Ass't Professor Davis. |
| Shopwork and Drawing, | Instructor Nollau. |
| | Assistant Ham. |

For the degree of E. M., Metallurgy, Ore Dressing, Milling, Coal Mining, Mine Engineering, Mine Plant, Mine Development, or Deep Mining, may be selected as major study; and minor studies may be assigned from Civil Engineering, Mechanical Engineering, Electrical Engineering, Geology, Chemistry, Physics, Mathematics, Political Economy, English, French and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. E. M.

| Year | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. | Afternoon. | Saturday. |
|---|---|---|---|---|---|---|---|
| Freshman. | English. | Plane Trigon. | Drawing. | Woodwork, Mech. Drawing. | Drill. | ShopWoodwork Bench, Lathe. | ShopWoodwork Bench, Lathe. |
| | English. | Solid Geometry | Physics. | Mech. Drawing. | Drill. | Drawing. | Drawing. |
| | English. | Algebra. | Physics. | Mech Drawing. | Drill. | Drawing. | Drawing. |
| Sophomore. | Analyt. Geom. | Surveying. | Chemistry. | Geology. | Drill. | Physical Lab. | Iron and Steel Forging. |
| | Analyt. Geom. | Electricity. Magnetism. | Metallurgy. | Descr Geom. | Drill. | Drawing. | Descrip. Geom Drawing. |
| | Analyt. Geom. | Electricity. Magnetism. | Calculus. | Descr. Geom. | Drill. | Surveying Mapping. | Surveying. Mapping. |
| Junior. | Electric Engineering. | Mechanics of Materials. | Calculus. | Mining 1, 2. | Drill. | Chemistry of Metals. | Surveying. Mapping. |
| | Mining 3. | Analytic Mechanics. | Calculus. | Dyn. Electric Machinery. | Drill. | Metallurgy. Assaying. | Assaying. |
| | Mineralogy. | Mining 3. | Analytic Mechanics. | Dyn. Electric Machinery. | Drill. | Quant. Analysis. | Surveying. |
| Senior. | Hydraulics. Steam Engine. Compressed Air. | History. | Mining 7. | Steam Boilers. | Drill. | Mining 4. Mining 5. | Mine Survey 6. |
| | Altern. Currents Power Plants. | History. | Mining 7. Mining 8. | Econ Geology. | Drill. | Mining 4, 5. | Mine Plant Design. |
| | Mine Plant Design. | Polit. Econ. | Mining 8. Mining 9. Mining 10. | Design. Thesis. | Drill. | Design. Thesis. | Thesis. |

# THE NORMAL SCHOOL.

MILFORD WHITE,
PRINCIPAL.

JAMES THOMAS COTTON NOE,
JOSEPH WILLIAM PRYOR,
JOSEPH EVANS WARREN,
ASSISTANTS.

The Normal School prepares teachers for service in the rural schools and elementary graded schools of the State. It comprises three courses, corresponding to the three classes of certificates named in the School Law, viz.: State Diploma, State Certificate, and County Certificate.

*The State Diploma Course* is made up of all the common school subjects and, in addition, Higher Arithmetic, Algebra, Plane Geometry, Elementary Physics, Elementary Latin, and Psychology. The State Diploma is a life certificate.

*The State Certificate Course* comprises, besides the common school branches, the advanced subjects of Higher Arithmetic, Algebra, English and American Literature, and Psychology. The State Certificate is valid for eight years, in all parts of the State, and is renewable for another eight years.

*The County Certificate Course* is made up of the common school subjects in which applicants for a county certificate must be examined.

*Other branches* will, it is now expected, be provided for in 1906, and thereafter. These branches will be Penmanship, Freehand Drawing, Vocal Music, and Nature Study. Of these, only Penmanship is required in most schools of the State; but it will not be many years until the others also will be required. In fact, Drawing, Vocal Music, and Elementary Science are now demanded in not a few graded schools The Normal School of the State College aims not only to prepare teachers to meet the bare requirements of the law, but also to fit them both to create and to satisfy a popular demand for the teaching of all the subjects of the best modern elementary curriculum.

Capable students in either of the lower courses, may, with the consent of the Dean, take advanced branches in the State Diploma Courses.

*General Pedagogy—Theory and Practice*—constitutes a special feature of each course throughout each term of the year. This class is a purely professional one, in which all questions pertaining to the organization, management, and teaching of elementary schools are fully discussed. Participation in the work of this class is vital to the best success of the teacher.

*Forensics*, a thorough training in the practice of public speaking is a special advantage offered by the Normal School. The whole school is

placed in sections sufficiently small to enable each student to get the benefit that comes from frequent practice in forensics. The work is in charge of the Dean.

*City examinations* are provided for in the several courses above named. Many city school boards in the State accept the State Certificate. In other cases, a course preparatory to a special examination can be made up out of the regular courses described in the preceding paragraphs.

*County Superintendents and Examiners.* Although the Normal School has not heretofore had proper facilities for especially fitting County Superintendents and County Examiners for their distinctive work, yet fifteen per cent. of the present County Superintendents in the State have been prepared here for their examination for eligibility, and for the more successful discharge of their official duties. Very many County Examiners have also had their preparation in the Normal School.

It is intended to offer in the session of 1905-06, and thereafter, special courses for those who desire to prepare for service as County Superintendents. These courses will comprise, in addition to the required academic studies, special instruction in Psychology, General Pedagogy, and in School Law.

*Text Books:* In the Professional Course the text-books are those used in the same branches in the other four years' courses of the College. In the work in Pedagogy the books used are Halleck's Psychology, Roark's Method in Educatiou, White's and Baldwin's School Management, and Seeley's History of Education. In the County Certificate Course the books used are Dubb's Arithmetic, Peterman's Civil Government, Chittenden's Elements of English Composition, Natural Advanced Geography, Holbrook's Complete Grammar, Montgomery's History of the United States, Kinkead's History of Kentucky, Martin's Human Body (smaller edition), Roberts' Rules of Order, and Roark's General Outline of Pedagogy. In the State Diploma and State Certificate Courses, besides these books, Wentworth's Higher Algebra, Johnson's History of English and American Literature, and Blaisdell's First Steps with English and American Authors also are used.

## APPOINTMENTS.

Each legislative district of the State is entitled to send to the Normal School every year four properly appointed students, of either sex. Appointments are made by the County Superintendents (see page 129, Section 14, 15, and 16, School Law of 1900) between the first day of July and the thirty-first day of December. Appointments should be certified to the President of the State College as soon as they are made. Appointees secure all the advantages indicated on page —. They do *not* receive mileage unless they remain in school the *full collegiate year*.

Appointments to the Normal School are good for one year. Those who are ready to enter the Freshman Class of the full four years' Professional Course should see that their appointments are made for the *College* and not for the Normal School. Appointments made for that course as a college course are good for four years.

## TEACHERS' CERTIFICATES.

By act of the General Assembly approved March 21, 1906,

1. A Bachelor of Pedagogy of the State College is authorized, without certificate, to teach in the public schools of the State during life, unless he or she shall cease to teach for five consecutive years.

2. The Trustees of the College may also by certificate authorize students to teach, if they have completed a course of study in the Normal Department of the College equivalent to that required by the State Board of Examiners for a State Diploma.

3. The Trustees of the College may also by certificate authorize students to teach during two years, if they have completed a course of study in the Normal Department equivalent to that required by the State Board of Examiners for a State Certificate.

4. Teachers authorized by certificate to teach in the public schools of the State, if they attend the Summer School of the Normal Department of the State College four weeks or more, are not required to attend any Teachers' Institute during that school year.

## CALENDAR.

The First Term will open Thursday, September 13th, 1906.
The Second Term will open Wednesday, January 2nd, 1907.
The Third Term will open Monday, March 11th, 1907.
Students should enter as early in the Term as possible.

## SCHEDULE FOR THE STATE DIPLOMA.

| Term | First Hour. | Second Hour | Third Hour | Fourth Hour. | Fifth Hour. |
|---|---|---|---|---|---|
| 1 | Latin. | Pedagogy. | Physics. | Algebra. | Drill. |
| 2 | Literature. | Psychology. | Higher Arithmetic. | Plane Geometry. | Drill. |
| 3 | Literature. | Algebra. | Higher Arithmetic. | Plane Geometry. | Drill. |

## SCHEDULE FOR THE STATE CERTIFICATE.

| Term | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour |
|---|---|---|---|---|---|
| 1 | Literature. | Pedagogy. | Higher Arithmetic. | Algebra. | Drill. |
| 2 | Literature. | Psychology. | Higher Arithmetic. | Algebra. | Drill. |

## SCHEDULE FOR THE COUNTY CERTIFICATE.

| Term | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. |
|---|---|---|---|---|---|
| 1 | Grammar. | Arithmetic. | U. S. History. Physiology. | Geography. | Drill. |
| 2 | Grammar. Civics. | Arithmetic. Pedagogy. | Geography. Physiology. | Composition. | Drill. |
| 3 | Grammar. Composition. | Arithmetic. Geography. | Civics. Physiology. Pedagogy. | U. S. History. | Drill. |

# SCHOOL OF PHYSICAL CULTURE.

## I. DEPARTMENT FOR YOUNG WOMEN.

MRS. FLORENCE OFFUTT STOUT,

*Physical Director for Women.*

Upon the completion of the handsomely equipped gymnasium in January, 1902, the Department of Scientific Physical Education for Women was organized under the present Director. To direct with intelligence demands an intimate knowledge of such sciences as bear, directly or indirectly, upon the mind and body, as for instance, Biology, Physiology, Anatomy, Psychology, Physics, Anthropometry, Orthopedics, First Aid, Special Medical Courses, and the theory of German and Swedish gymnastics. The Director is one of the three women in the Commonwealth who hold diplomas from the leading training-schools of America.

### DEPARTMENTAL AIMS.

The aims of Physical Education are four:—1. To stimulate the functioning of all bodily organs. 2. To train the muscles so that curves may displace angles and grace banish awkwardness. 3. To arouse the mind to superior alertness 4. To develop character.

### GYMNASTICS.

A scientific lesson is composed of four parts:—Military Tactics, Free Gymnastics, Apparatus Work, Artistic Gymnastics or Gilbert Dancing. Both systems of gymnastics, German and Swedish, are taught.

Students are required to do two hours' work each week in the gymnasium and requested to supplement this by home training. The only girls excused from the work are the seniors, and those who submit the written certificate of a physician.

### SWIMMING.

The swimming school for women is the only one of the kind in the South and it was organized one year ago. It opens after the Annual Gymnastic and Swimming Tournament on April 21st, and is remarkably popular. Swimming is the best exercise for perfecting the muscles in general, especially those of the neck, chest, and shoulders.

The system taught is that of Max Schwartz of Yale, and after five or six lessons in the pool the pupils have caught the art of the breast-stroke, with correct breathing.

The pupil who makes an annual average of 13.5 and upwards may enter the class in May, if she so elects. Girls who learned to swim last Spring will be taught advanced forms Each lesson lasts for half an hour and is given to groups of six All pupils are drilled in resuscitation of drowning persons, after the manner of the U. S. Life-saving Crews

### BASKET-BALL.

Social games like basket-ball have a definite purpose in Physical Education. Players require quickness of thought, judgment, and self-control under excitement. They learn to sacrifice self for the sake of the team as a whole. Gymnastic training has given our girls such suppleness and endurance that their fame is more than local.

Girls who have had one year's training in the gymnasium or have played the game before are permitted to practise for a place on the team. Fortunately we have always had excellent coaches.

## II. DEPARTMENT FOR YOUNG MEN.

W. WALTER H. MUSTAINE,
*Director.*

H. H. DOWNING,
J. S. CROSTHWAITE,
*Assistants.*

Orandum est ut sit mens sana in corpore sano.—*Juvenal.*

The objects sought in this school are: 1. Health of body and mind through physical exercise. 2. The development of strength and graceful movement. 3. The prevention and correction of physical deformities. 4. The correction of functional disorders. 5. The fortification of the body against bad hereditary tendencies.

Every student is carefully examined and the proper exercise prescribed.

### COURSES OF EXERCISE.

FIRST YEAR—1. Swedish gymnastics. 2. Simple movements with dumb-bells. 3. Practice with wands. 4. Exercises with Indian clubs. 5. Work with elementary apparatus. 6. Light work on running-track. 7. Games.

SECOND YEAR—1. Free gymnastics. 2. More advanced co-ordinations with Indian clubs. 3. Apparatus work. 4. Rythmical leg movements. 5. Work on running-track. 6. Advanced movements with dumb-bells, combined with leg movements. 7. Games.

THIRD YEAR—1. Advanced Indian club drill. 2. Advanced apparatus work. 3. Advanced co-ordinating leg movements. 4. Barbell drill for the entire body.

Two lessons a week throughout the courses are required of all students. Students are promoted according to merit.

The work of this school is done in the Gymnasium, which is supplied with all needed appliances, including lockers, baths, and a swimming-pool.

During the second and third years lectures are delivered on the laws of health, on pride of physique, on the neglect of health. Ten lectures are delivered to Normal students on physical education, corrective gymnastics for public school children, physical training as viewed by the physiologist, the psychologist and the sociologist.

# SCHOOL OF DOMESTIC SCIENCE.

MISS ISABELLA W. MARSHALL,
*Instructor.*

The Department of Domestic Science was established by the Board of Trustees in December 1905. Miss Isabella W. Marshall was placed in charge, who, with the advice and aid of Dr. Chase Palmer, Professor of Chemistry in the College, made proper installation of the Department early in 1906. Miss Marshall is a graduate of the State College of Kentucky and has taken special work in Columbia College, New York, and in Chicago, in order to prepare herself for the intelligent management of a Department such as this.

Though late in the collegiate year, a good beginning has been made. The first class numbers about forty young women. Attendance is optional. It is probable, however, that before long the subjects taught in this Department will be made part of one or more courses leading to a degree. The Department will embrace Physiology, Pathology and Hygiene, the chemical constituents of food, their preparation, digestibility and assimilation; ventilation, household therapeutics, household management and all that relates to well regulated living. The Department will be equipped with all the apparatus that is needed to make instruction effective. The quarters set apart for its present use are in Patterson Hall, commodius, well lighted and supplied with the necessary culinary apparatus. Additions will be made from time to time as required. This is a new departure in the collegiate training of young women in Kentucky, but one which no doubt will help to brighten many a home in the Commonwealth.

## THE ACADEMY.

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WALTER KENNEDY PATTERSON,
PRINCIPAL.

JAMES FRANKLIN SANDEFUR,
RICHARD EVANS WARREN,
LEWIS NELSON TAYLOR,
ASSISTANTS.

# COURSES OF STUDY.

### I. SCIENTIFIC.

First Year—Arithmetic, Wells' Academic; Algebra, Wells' Essentials, to Chapter XVII ; Political and Descriptive Geography, Butler's Complete ; History of the United States, Eggleston ; English Grammar, Patterson's Advanced.

Second Year—Algebra, Wells' Higher, to ChapterXXVIII ; Plane Geometry, Beman and Smith ; Physical Geography, Tarr ; General History, Myers' revised edition ; Rhetoric, Genung ; Synonyms, Crabb.

### II. CLASSICAL.

First Year—Latin Grammar, Smiley and Storke ; Viri Romæ or Scudder's Gradatim or D'Ooge's Easy Latin ; White's Beginner's Greek Book ; Arithmetic, Wells' Academic ; Algebra, Wells' Essentials to Chapter XV11 ; English Grammar, Patterson's Advanced.

Second Year—Latin Grammar, continued ; Nepos, Cæsar ; Daniell's New Latin Composition ; Greek Grammar, continued ; Jacobs' Greek Reader; Xenophon's Anabasis; Algebra, Wells' Higher, to Chapter XXVIII; Plane Geometry, Beman and Smith ; Rhetoric, Genung ; Synonyms, Crabb.

First Year—Coleridge's *Ancient Mariner*, in class, and Scott's *Ivanhoe*, parallel.

Second Year—Shakespeare's *Macbeth*, Macaulay's Essay on *Addison*, Addison's *Sir Roger de Coverley* Papers, Tennyson's *Princess*, Milton's *Lycidas*, in class ; George Eliot's *Silas Marner*, parallel.

## SCHEDULE OF STUDIES IN THE ACADEMY.

### SCIENTIFIC

| YEAR | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|
| FIRST YEAR. | English Grammar. | Geography. | Arithmetic. | Algebra. | Drill. Gymnastics. | |
| | English Grammar | History. | Arithmetic. | Algebra. | Drill. Gymnastics. | |
| SECOND YEAR | Rhetoric. | Algebra. | Physical Geography. | Geometry. | Drill. Gymnastics. | |
| | Rhetoric Synonyms. | Algebra. | History. | Geometry. | Drill. Gymnastics. | |

### CLASSICAL.

| YEAR | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|
| FIRST YEAR. | English Grammar | Latin Grammar. | Arithmetic. | Algebra. | Drill. Gymnastics. | Greek Grammar |
| | English Grammar. | Latin Grammar. | Arithmetic. | Algebra. | Drill. Gymnastics. | Greek Grammar |
| SECOND YEAR | Rhetoric. | Algebra. | Viri Romæ. Nepos. | Geometry. | Drill. Gymnastics. | Greek Reader. |
| | Rhetoric. Synonyms. | Algebra. | Cæsar. Latin Composition. | Geometry. | Drill. Gymnastics. | Anabasis. |

The Academy is under the immediate direction and management of the Principal and four Assistants.

The students are subject to the same rules and regulations as the students of the College. Their attendance at the College is required only during the hours of recitation and other prescribed College exercises, the preparation of their lessons being made elsewhere.

The courses of study in the Academy are provided for those who enter directly from the common schools, and are intended to supply the necessary training intermediate between the Freshman class of the College and the course of study prescribed by the State Board of Education for the common schools.

Every applicant, to be admitted to the Academy, is required to pass a satisfactory examination in Spelling, Reading, Writing, Geography, History of the United States, English Grammar, and Arithmetic.

County appointees must present Certificates of Appointment, made on actual examination held in pursuance of *law* by a County Board of Examiners, duly appointed for that purpose by the County Superintendent.

Applicants from the public schools of Lexington must present certificates from the School Board setting forth that they have completed the eighth-grade studies.

Other applicants must present certificates from their County Superintendent, or from the Principal of their High School, setting forth that they have completed the common school course prescribed by the State Board of Education.

Those who enter at any other time than the beginning of the year will be required to pass a satisfactory examination on the work already gone over by the classes they propose to enter.

Students matriculating in the Academy will be required to pursue one of its prescribed courses of study, and will not be permitted to take any work outside of this course except on the recommendation of the Principal.

## ENTRANCE EXAMINATIONS.

These will be held as follows: Tuesday, Sept. 11th, 1906, on English Grammar, Rhetoric, and Greek Grammar; Wednesday, Sept. 12th, on Political and Descriptive Geography, U. S. History, Latin Grammar, and Second Year Algebra; Thursday, Sept. 13th, on Arithmetic, Physical Geography, General History, and Second Year Latin; Friday, Sept. 14th, on First Year Latin, Algebra, Geometry, and Second Year Greek.

Examinations to begin at 8 a. m. and close at 12 m.

For the benefit of those, other than county appointees, who desire to know the character of the examination which applicants for admission will be required to pass, the following examination papers are submitted as a sample. It is not to be understood that these are the questions on which applicants will be examined, but that they indicate the minimum attainments necessary to enter the Academy of the College. Those who expect to enter more advanced classes will be required to pass an examination on all that the class which they propose to enter has passed over.

### I. ARITHMETIC.

Find the greatest common divisor and the least common multiple of 899 and 961.

$$\text{Simplify } 2\tfrac{1}{4} \times \frac{10\tfrac{3}{4} - 4\tfrac{11}{12}}{6\tfrac{3}{16} \times 7\tfrac{2}{3}} \div \frac{3\tfrac{5}{11}}{1\tfrac{2}{5} + 9\tfrac{1}{11}}$$

Find the number of bushels that will fill a bin 8.5 feet long, 4.5 feet wide, 3.5 feet deep.

The longitude of Rome is 12° 27′ 14″ east; the longitude of Chicago is 87° 35′ west; find the difference in time between the two places.

What will be the cost of plastering the walls and ceiling of a room 24 feet 4 inches long, 20 feet wide and 12 feet 6 inches high, at 27 cents per square yard, if 20 square yards be deducted for doors, windows, and base boards?

If a train at the rate of $\frac{5}{13}$ of a mile per minute takes $3\frac{1}{4}$ hours to reach a station, how long will it take at the rate of $\frac{7}{15}$ of a mile per minute?

A and B can do a piece of work in $2\frac{1}{2}$ days, and A and C in $3\frac{1}{3}$ days, B and C in $4\frac{1}{4}$ days. Required the time in which all three working together can do the work, and in which each can do the work alone.

A farmer sowed 5 bushels, 1 peck, 1 quart of seed, and harvested from it 103 bushels, 3 pecks, 5 quarts. How much did he raise from a bushel of seed?

Reduce 9 square chains, 11.25 square rods, to the decimal of an acre.

If a bar of iron $3\frac{1}{3}$ feet long, 3 inches wide, $2\frac{3}{4}$ inches thick weighs 93 pounds, what will be the weight of a bar $3\frac{2}{3}$ feet long, 4 inches wide, and $2\frac{1}{2}$ inches thick?

### II. ENGLISH GRAMMAR.

Name, define, and give examples of, all the parts of speech.

Define a phrase, a clause, and give examples of each.

What are the only verbs that can be in the passive voice? Why?

Write a complex sentence containing a noun clause; one containing an adjective clause; one containing an adverbial clause.

Analyze the following sentence, and parse all the words in full:

"The soldiers of the Tenth Legion, wearied by their long march and exhausted from want of food, were unable to resist the onset of the enemy."

### III. GEOGRAPHY.

What are the circles of the earth?

What are the meridians?

Define latitude and longitude.

What two meridians bound the hemispheres?

Define the two principal forms of government.

Bound North America aud describe its political divisions.

Why is the climate of Western Europe different from that of America in the same latitudes?

Describe the mountains, principal rivers and lakes of Asia.

Describe the natural routes of commerce.

### IV. HISTORY.

What section of the United States was first explored by the Spanish? French? English?

Give a concise description of the settlement of Plymouth, Jamestown, New York City, and name their distinctive characteristics.

Define Charter, Proprietary, and Royal government as applied to the colonies, and name the colonies that were under each of these forms of government.

Name the three principal causes of the Revolutionary War.

What was the main cause of the War of 1812?

What caused the Mexican War?

Give the leading political differences between the North and the South at the opening of the Civil War.

Name the three departments of the Government under the Constitution, and define the duties of each.

# ASSOCIATIONS.

### THE UNION LITERARY SOCIETY.

This, the oldest of the literary associations connected with The State College, was formed in 1872 by the consolidation of the Yost Club and the Ashland Institute, and operates under a charter from the Legislature. It occupies a commodious and well-furnished hall in the Gymnasium and is supplied with a library due in part to an appropriation from the State. Besides the weekly meetings devoted to declamations, essays, and debates, the Society holds on the 22d of February an annual contest in oratory, and awards to the successful competitor a gold medal provided by the alumni.

### THE PATTERSON LITERARY SOCIETY.

This society, formed in 1887, and at the suggestion of Gov. Knott named in honor of the President of the College, was chartered in 1888. It is provided with a handsome room and a good library. The annual oratorical contest is held on the 26th of March, the birthday of the President, who presents the first prize, a gold medal. The second, also a gold medal, is the gift of Mr. George W. Crum, of Louisville.

### THE PHILOSOPHIAN AND NEVILLE SOCIETIES.

These Societies, instituted, the former in 1882, the latter in 1905, by young women of the College, for literary improvement and social pleasure, offer, besides the usual weekly meetings, public entertainments consisting of declamations, essays, criticisms, and addresses.

### THE ENGINEERING SOCIETY.

This body, composed of matriculates in either course of engineering, meets on the third Friday of each month. The exercises consist of a paper read by a member on some pertinent topic, followed by a general discussion. During the year the Society is occasionally favored with lectures by experienced engineers not connected with the College.

### ATHLETICS.

Opportunity for physical exercise and legitimate outdoor sport is afforded by the spacious Athletic Field and Parade Ground. The management of athletics by the students is vested in an Athletic Association formed by the union of the Foot-ball, the Base-ball, and Track-athletic Societies. The officers of these three sub-organizations constitute the managing board of the Athletic Association. The control of athletics by the Faculty is secured through their Committee on Athletics, acting under a set of regulations adopted by the Faculty and approved by the Trustees.

## ALUMNI.

### 1869.

Munson, William Benjamin, B. S., ...... ...................... Denison, Texas.

### 1870.

Munson, Thomas, Volney, B. S., M. S., '83, ................Denison, Texas.

### 1871.

Harding, Enoch, B. S., ... ..... ..... . .......................... Fort Worth, Texas.

### 1874.

Carswell, Robert Emmett, B. S., ........................ ......Decatur, Texas.
Dean, John Allen, B. S., ............. ..........................Owensboro.
Hardin, Thomas Rollins, B. S., M. S., '76, ......... ..........Ruston, La.
Smith, Edward Everett, B. S., ................................. Chicago, Ill.

### 1875.

Brown, Edgar Thomas, B. S., M. S., '77, ........................Chicago, Ill.

### 1877.

Floete, Franklin, B. S., ............................ ....................St. Paul, Minn.
Ward, Ballard Preston, B. S., ........................................Speedwell, Va.

### 1878.

Cole, Moses Salvador, B. S., ...... . ..............................Rivas, Nicaragua.
*Mackie, Mahlon, B. S., .................................. ..........Mt. Sterling.

### 1879.

Blakely, Charles Graham, B. S., M. S., '84,.......... .........Topeka, Kansas.
Hays, Napoleon Bonaparte, B. S., M. S, '84,..... ..... .. Frankfort.
Perry, Caleb Sykes, B. S., ..... .............. .................... Indianapolis, Ind.
Wright, Henry Moses, B. S., .................... ....... .........Alton Park, Tenn.

### 1880.

*Crawford, James, B. S., ..... ........................................Lexie, Tenn.
Peter, Alfred Meredith, B. S., ..................... ................Lexington.
Weller, Nicholas John, B. S., ....................................... Pineville.
Whatley, George Croghan, B. S., ......... . ..... .......... Birmingham, Ala.

### 1881.

Pence, Merry Lewis, B. S., M, S., '85, ....... ........ .........Lexington.

### 1882.

*Berry, George G., B. S., ..............................................Lexington.
De Roode, Louis Kuinders, A. B., A. M., '86, .. .......... New York.
Patterson, John Letcher, A. B., A. M., '86, ....................Louisville.
Rogers, Edward Lee, A. B., ........ ..................................Lexington.
Shackleford, John Armstrong, A. B., A. M., '86, ...........Tacoma, Wash.
Stoll, John William, A. B., ..........................................Lexington.

*Deceased.

### 1883.

*King, William Elijah, B S., ........................................ ....Nelson County.
Taylor, James W., A. B., ..............................................New Castle.

### 1884.

Eubanks, Burton Prendergast, B. S., ........ ..................Dallas, Texas.
Graves, Clarence Scott, B. S., .......... . ..........................Lexington.
*Jones, Henry Clay, B. S., ..... ......................................Monticello.
Kastle, Joseph Hoeing, B. S., ........................................Washington, D. C.
Ramsey, Russell Thomas, B. S., ......... ..........................Denver, Col.
Riley, Otis Violette, B. S., ........... ................................Pineville.

### 1885.

De Roode, Rudolph John Julius, B. S., M. S, '87, ........ Glens Falls, N. Y.
Gess, George Thomas, B. S., ..........................................Lexington.
Gordon, John Crittenden, B. S., .....................................Eminence.
Lambuth, William David, A. B., .....................................Seattle, Wash.
Scott, James Russell, B. S., ............................ ..............Lexington.
*Thornbury, William Garland, B. S., ..............................Brooklyn, N. Y.

### 1886.

Morgan, Thomas Hunt, B. S., M. S., '88, .......................New York.
*Prewitt, Robert Lee, A. B., ..........................................Memphis, Tenn.
Prewitt, William C., A. B., .................................. ...... Fort Worth, Texas.

### 1887.

Hifner, Kearney Lee, B. S., ............................................Lexington.
Shackleford, Thomas Wheatley, A. B., ..........................New York.

### 1888.

Bartlett, Frederick Vincent, B. S., ................................ Lexington.
Bryan, George Gist, B. S., ............................ ..............Norfolk, Va.
Curtis, Henry Ernest, B. S., M. S., '92, ..........................Lexington.
Gunn, Belle Clement, B. S., ..... .... ...............................Springfield, Ohio.
Payne, Robert Treat, B. S., ............ ................... ... .....Athens.

### 1889.

Ellershaw, Edward, A. B., A. M., '92, ............................Bristol, England.
Frazer, Hugh Miller, B. S., .............. ............................Lexington.
*Patterson, William Andrew, B. S., ...............................Lexington.
Prewitt, Annie Gist, B. S., .............................. .............Lexington.
Walker, Robert Bernie, B. S., ........................................St. Louis, Mo.

### 1890.

Anderson, Richard Thomas, Jr., B. S., .............. .........Lexington.
Baker, Annie Jane, B. S., ........................ .....................Lexington.
Brock, Charles Robert, B. S., ...................................... ...Denver, Col.
Forston, Keene Richards, B. S., ...................................Nicholasville.
Gunn, John Wesley, C. E., ............................................Lexington.

*Deceased.

Hoeing, Charles, A. B., ........................ Rochester, N. Y.
Wilson, Margaret Agnes, B. S., ........................ Deadwood, Col.
Yates, James Anderson, B. S., ........................ Ottawa, Kansas.

1891.

Berry, Henry Skillman, B. S., ........................ Lexington.
Clardy, U. L., B. S., ........................ Goodwill, S. D.
Muncy, Victor Emanuel B. S., ........................ Cincinnati, O.
Wallis, William Russell, C. E., ........................ Friars's Point, Miss.
Warner, B. Callie, B. S., ........................ Washington, D. C.

1892.

Cox, Arthur Melville, A. B., ........................ Cynthiana.
*Elkin, Fielding Clay, B. S., ........................ Lexington.
Hunt, Irene Leonora, B. S., ........................ Lexington.
Maxey, John Gee, A. B., ........................ Louisville.
Page, William Seabury, C. E., ........................ Danville, Wash.
Pottinger, Samuel Lancaster, A. B., ........................ Lonisville.
*Reynolds, Frank Craig, C. E., ........................ Lexington.
Scovell, Frank Elmer, C. E., ........................ Chamois, Mo.
Shaw, Hiram, Jr., B. S., ........................ Chicago, Ill.
Shelby, Isaac Prather, C. E., ........................ Arkansas.
Southgate, Butler Turpin, A. B., ........................ Lexington.

1893.

Adams, Katherine Innis, A. B., ........................ Albuquerque, N. Mex.
Bryan, John Irwin, B. S., B. M. E., '95 ........................ Boston, Mass
Courtney, Edmond, B. Ped., ........................ Neave.
Gunn, Henry Martin, B. S., ........................ Mt. Sterling.
Hobdy, William Cott, B. S,, ........................ Honolulu, H. I.
Johnson, James Richard, B. M. E., ........................ Reno, Nev.
McFarlin, John William, B. S., ........................ Franklin.
Railey, Morton Sanders, C. E., ........................ Washington, D. C.
Roberts, Daniel Stillwell, B. Ped., A. M., '01, ........................ Louisville.
Smith, Denny Perryman, B. S., ........................ Cadiz.
Speyer, Rosa, B. S., M. S., 1900, ........................ Leipzig. Germ.
Ware, Cora E., B. Ped., ........................ Pineville, Ky.
White, Milford, C. E., M. S., 1900, ........................ Lexington.
Willis, Benjamin Grant, B. S. ........................ Lexington.

1894.

Aulick, Edwin Chesterfield, A. B., ........................ Louisville.
Bradshaw, George Dickie, B. Ped., ........................ Chicago, Ill.
Brand, Edward, A. B., A. M., '96 ........................ East Lake, Ala.
Curtis, Carlton Coleman, B. S., ........................ Babylon, N. Y.
Faig, John Theodore, M. E., ........................ Lexington.
Garred, Ulysses Anderson, B. M. E., ........................ Anaconda, Mont.
*Griffing, Emma Rosetta, B. S., ........................ Lexington.

*Deceased.

Hays, James Morrison, A. B., .. ....................... ..............Barbourville.
Hughes, Leonard Samuel, B. S., ....................................Manila, P. I.
Jones, Mattison Boyd, A. B., ......................................... Los Angeles, Cal.
Keiser, Benjamin Christopher, B. S., ......................... St. Louis, Mo.
Kroesing, Lillie, B. S., ......................... .............. ...Lexington.
Newton, Nathan Alexander, B. M. E., M. E., '99, ..... Oil City, Pa.
Norman, Albert Clift, B. M. E., ............ .............. ..... Savannah, Ga.
Oots, Nina Pearl, B. S., ................... .......................... Richmond.
Shelby, Katherine, B. S., ........................................ ..... Lexington.
Sledd, Dora, B. Ped., ..................................................Chicago, Ill.
Trigg, William Clay, C. E., ........................................ Ullin, Ill.
Warner, Hattie Hocker, B. S., .................................. Honolulu, H. I.

## 1895.

Atkins, Mary Lyons, B. S., ............................. ............. Lexington.
Barker, Lanis Spurgeon, B. S., .................................... Ocala, Fla.
Bush, Henry Skillman, B. S., ..................................... ..Lexington.
Didlake, Mary LeGrand, B. S., M. S., ..................... .... Lexington.
Downing, Joseph Milton, B. M. E., ................................Jackson, Tenn.
Faulkner, John Vick, C. E., ................. ........................Simon, Ind. Ter.
Fitzhugh, Lucy Stuart, A. B., A. M., '96, .................... Lexington.
Foster, Nettie Belle, B. S., .......................................... Lexington.
King, Elizabeth Whittington, A. B., A. M., '96, ............Ft Wayne, Ind.
Lewis, Thomas Stone, A. B., ........................................ Lexington.
McConathy, James Asa, B. S., .. ............. ......................Kirklevington.
McCaughliffe, Mary Catherine, B. S., .... ................ ..... Lexington.
Murrill, Paul Ingold, B. S., M. S., '96, ........... ............Wilmington, Del.
Newman, Roberta, B. S., .. ........................................ Lexington.
Reynolds, Nellie Anna, B. S., M. S., '96, ..................... Lexington.
Stoll, Richard Charles, A. B., ............................. ..... Lexington.
Weaver, Rufus Lee, B. S., ............................................ New York.
Willmott, John Webb, A. B., .........................................Wewoka, I. T.
Woods, John Joseph, A. B., ......................... ................. Lexington.

## 1896.

Alford, Smith Edison, A. B., ......... ................................ Ellwood, Pa.
Carnahan, James Williams, A. B., ................................Toledo, O.
Case, Daniel Morris, B. M. E., .....................................Georgetown.
Davidson, Harry Adolph, C. E., ...... ......................... Louisville.
Dean, Thomas Roland, A. B., ...................... ..... ........S. McAlister, I. T.
Duck, Alice, B. S., ........................................................Lexington.
Dunlap, John Jennings, A. B., .....................................Lancaster.
Kerrick, Felix, A. B., A. M., '01, ........... .. ................Louisville.
Lyle, Joseph Irvin, B. M. E., M. E., '02, ................ ....New York.
McDowell, Edward Campbell, B. M. E., ...................... Jackson, Tenn.
Orman, Henry, B. M. E., ................ ...........................Danville.
Trigg, John Henry, B. S., ..............................................New Columbus.
Woods, John Wesley, A. B., ..........................................Ashland.

## 1897.

Allen, William Raymond, A. B., ................................Chetocah, I. T.
Anderson, Henry Clay, B. M. E., ................................Ann Arbor, Mich.
*Atkins, Antoinette Thornton, B.S., ................................Lexington.
Blessing, George Frederick, B. M. E., M. E., ...........Reno, Nevada.
Bullock, Samuel Archibald, B. M. E., M. E., ...........Berwick, Pa.
Cassidy, Elizabeth, B. S., ................................Lexiugton
Clarke, Mary Eva, B. S., ................................Lexington.
Collier, William Henry, B. M. E., ................................Jackson, Tenn.
DeBow, Samuel Carruthers, B. M. E., .................... Jackson, Tenn.
Downing, George Crutcher, B. Ped., M. S.. ............. Frankfort.
Duck, Berkley Wilson, B. M. E , ................................Indianapolis, Ind.
Duncan, William Adolphus, B. M. E., ......................Nashville, Tenn.
Frazer, Joseph Christie, B. S., ................................Baltimore, Md.
Geary, John Thomas, B. S., ................................U. S. Army.
Gordon, Robert Lee, A. B., A. M., '98, .................... St. Louis, Mo.
Gunn, Clara Brooke, B. S., ................................ Lexington.
*Haley, John Thomas, B. S., ................................ Fayette County.
Hendren, James Harry, B. S., ................................Speedwell.
Hicks, Arthur Lee, A. B., ................................ Ashland.
Kelly, Thomas Conway, B. M. E.,................................Milwaukee, Wis.
McHargue, Barbara Susan, B. S., ................................London.
Morgan, George Matt, B. S., ................................Cincinnati, Ohio.
Pope, Robert Lee, A. B. ................................Williamsburg.
Scott, John, A. B., ................................ San Antonio, Texas.
Searcy, Lula, B. Ped., ................................ Lexington.
Simrall, James Orlando Harrison, A. B., ..................Lexington.
Warner, Logan Hocker, B. S., ................................ LaFollette, Tenn.
White, Martha Ripperdan, B. S., M. S., ....................Lexington.

## 1898.

Brock, George Green, A. B., M. S., '99, ......................London.
Brock, Lafayette Richardson, B. S., ...................... Lexington.
Cahill, William James David, B. M. E., .................. Lexington.
Campbell, Thomas Luther, A. B., ..........................Memphis, Tenn.
Carpenter, William Thomas, B. M. E., .................... Vallejo, Cal.
Farley, Frank Preston, A. B., ................................Flatlick.
Hammock, David William, B. S., ................................Cane Creek.
Hamilton, Thomas Smith. B. M. E., ..........................Louisville.
Johnson, Jack Stubblefield, A. B., ................................Muir.
King, Margaret Isadore, A. B., ................................Lexington.
Loevenhart, Arthur Solomon, B. S., M. S., '99, .........Baltimore, Md.
Loevenhart, Edgar Charles, B. M. E., ..........................Chicago, Ill.
Lucas, Ida West, A. B., ................................Ellwood, Pa.
Straus, Charles Louis, B. M. E., M. E., '99, ..............Lexington.

*Deceased.

Terry, Lila Beatrice, A. B., ........................................ Paris.
Trosper, Henderson Taylor, A. B., ................................ London.
Turner, Job Darbin, B. Ped., ........................................ Lexington.
Ward, Paul Sterling, B. M. E., ....................................... Cincinnati.
Wilson, Henry Clay, A. B., ............................................ Cynthiana.

## 1899.

Allen, Leonard Barnes, B. C. E., .................................. Whitehouse.
Brock, Walter Lucas, A. B., .......................................... London.
Bronaugh, Will Logan, B. M. E., M. E., '03, .............. Chicago, Ill.
Bullock, Frederick Dabney, B. S., ................................ Baltimore, Md.
Bullock, Joseph Hunt, B. S., ........................................ Lexington.
Butler, Frances Victor, A. B., A. M., '02, .................... Nicholasville.
Copland, Alexander Chisholm, B. C. E., ......................... Lexington.
Cox, Jane Bramblett, A. B., ........................................... Brewton, Ala.
Davidson, Joseph Ernest, B. C. E., ............................... Louisville.
Graves, Leila May, B. S., ............................................. Lexington.
Grinstead, Wrenn Jones, A. B., ..................................... Adelaide, Australia.
Horton, Minnie Leigh, A. B., ........................................ Camargo.
Hughes, James William, B. M. E., ................................ Quincy, Mont.
Jett, Carter Coleman, B. M. E., .................................... Alleghany, Pa.
Johnston, Philip Preston. B. M. E., ............................... Lexington.
Maddocks, Roydon Keith, B. C. E., ................................ Wehrum, Pa
Marks, Samuel Blackburn, B. S., .................................. Versailles.
Morrow, Joseph, B. Ped., ............................................. Rankin.
Roberts, George, B. Ped., M. S., .................................. Berkeley, Cal.
Scherffius, William Henry, B. S., .................................. Lexington.
Scholtz, Theodore Walter, B. M. E., ............................... East Pittsburg, Pa.
Simpson, Eugene Erwin, A. B., A. M., B. M. E., ............. Lexington.
Smith, Sidney Allen, A. B., ........................................... Louisville.
Vance, Arthur John, B. M. E., ...................................... Cleveland, Ohio.
Warren, Richard Evans, A. B., ...................................... Lexington.
Willmott, Jennie Walker, B. S., .................................... Cleveland, Ohio.
Young, Bradley Woodruff, B. S., ................................... Cincinnati, Ohio.

## 1900.

Allen, Robert McDowell, A. B., .................................... Lexington.
Bowden, Mary Willa, A. B., .......................................... Paris.
Brock, David Morris, B. C. E., ...................................... Norfolk, Miss.
Cornett, Charles George, B. Ped., ................................ Pineville, Oregon.
Cox, Lula May, B. S , ................................................. Lexington.
Darling, Lewis Andrew, B. M. E., .................................. Palo Alto, Cal.
Frankel, Leon Kaufman, B. M. E., M. E., '02, ................ Lexington.
Graham, James Hiram, C. E., ........................................ Knoxville, Tenn.
Graves, James Madison, B. M. E., M. E., '01, ................ Pittsburg, Pa.
Gunn, John Tevis, A. B., A. M., '01, ............................. Lafayette, Ind.
Hestand, John Emerson, B. S., ..................................... Edmonton.
Hundley, Leslie, B. S., ................................................. Rome.

Johnston, John Pelham, B. M. E., M. E., '01, ..........Lexington.
Johnston, Marius Early, B. S., ........................ .... ...Lexington.
Jones, Thomas Almon, A. B., .................................. Creelsboro.
Lester, Arthur Vane, B. C. E., ..................................Richmond, Va.
McCarty, William Carpenter, B. S., ......................... Louisville.
Musselman, Joseph Franklin, B. M. E., M. E., '04, ...Louisville.
Neal, Mary Eliza, A. B., ..........................................Paris.
Nichols, Thomas Ashbrook, B. M. E., ......................Pittsburg, Penn.
Peyton, Nellie Evans, B. S., .....................................Lexington.
*Ragan, Leonidas, A. B., .........................................Shearer Valley.
Reed, Jewett Villeroy, B. S.,............................. ....Louisville.
*Rieser, Eugene Feist, B. M. E., ...............................Louisville.
Scrugham, James Graves, B. M. E., .........................Reno, Nev.
Smith, Albert Elias, B. S., ............... .......................Owensboro.
Smith, Joshua Soule, B. M. E., ................................Lexington.
Spears, Miranda Louise, B. S., ............. ....................Santa Rosa, N. Mex.
Wilson, James Buckley, B. M. E., ...........................Louisville.

## 1901.

Bassett, Henry Preston, B. S., M. S., '02, .. ..............Cynthiana.
Bewlay, Harry, B. M. E., .........................................Chicago, Ill.
*Blessing, Charles Albert, B. M. E., ..................... .....Buffalo, N. Y.
Bliss, Charlotte Miriam, A. B., ......................... ......Louisville.
Bradley, Charles Walter, B. M. E., ........ ...... ...........Norfolk, Va.
Butler, Nannie Etta, B. S., ..................................... Lexington.
Craig, William James, A. B., ..................... .............Owensboro.
Cutler, Frank Garfield, B. M. E., M. E., '04, ..........Chicago, Ill.
Dabney, Albert Smith, A. B., ...................... ..............Cadiz.
Daugherty, Frank, B. M. E., ......................................Pittsburg, Penn.
Ellis, Nicholas Henry, B. Ped., ...... ............................Faywood.
Gilbert, John Whittington, B. S., ............... ..............Lawrenceburg.
Gordon, Mary Logan, A. B., ......................................Eminence.
Hailey, George Hereford, B. C. E., ...........................Springfield, Ill.
Hardin, Calvin Evans, B. S., ........... ....................... Sibley, La.
*Humphrey, Claude Loecher, B. M. E., .....................Lexingtou.
Hunt, Robert Bruce, B. M. E., ..... ........................... St. Augustine, Fla.
Johnson, William Piatt, B. Ped,. ..............................Frederickstown, Mo.
Jones, Leila Eleanor, B. Ped., ...................................Eminence.
Kaufman, Philip Levy, B. M. E., ..............................Chicago, Ill.
Klein, Garnet Rosel, B. M. E., ..................................Beloit, Wis.
Lary, Allen Pettit, B. S. ...........................................Lexington.
Lewis, Charles Dickens, B. Ped., ..............................Berea.
Luten, Drew William, A. B., .....................................Cayce.
Marshall, Albert Ross, B. S., M. S., '02, ....... ...........Lexington.
Milburn, Frank William, B. M. E., M. E., '04, .........Nashville, Tenn.

Deceased.

Moore, Thomas Brent, A. B., ................................Lexington.
Offutt, Jimmie Morrison, B. S., M. S., '04, ...............Louisville.
Pennington, William Lee, B. Ped., ........................Sandyhook.
Perkins, Wade Hampton, B. C. E., ........................Nashville, Tenn.
Rankin, Flora Emma, A. B., ..................................Rankin.
Richmond, Thomas Logan, B. Agr., ........................Manila, P. I.
Seibert, Frank Thomas, B. M. E., ........................Philadelphia, Pa.
Sharon, John Albertus, B. Ped., ............................Paris.
Shedd, Oliver March, B. S., M. S., '04, ..................Lexington.
Taylor, Gibson Walker, A. B., ..............................Troy, Mo.
Treas, Charles, B. C. E., ....................................McComb City, Miss.
Webb, William Snyder, B. S., M. S.. '02, ...............Wewoka, I. T.
West, Perry, B. M E., M. E., '04, ..........................Louisville.
Williams, Ella Campbell, B. S., M. S., '02, .............Chilesburg.

1902

Barr, Thomas James, B. M. E., ..............................Clay City.
Berry, Jesse Cecil, B. Ped., ..................................Clintonville.
Boulware, Lemuel Ford, A. B., ..............................Campbellsburg.
Bowling, Willette Lee, B. M. E., ............................New York.
Campbell, Walter Gilbert, A. B., ...........................Lexington.
Clay, Mathew Martin, B. C. E., .............................Lexington.
Cox, Spencer Foster, B. M. E., ..............................Philadelphia, Pa.
Crider, Albert Foster, A. B., M. S., '03, ..................Marion.
Ditto, Leola, B. Ped., ..........................................Pleasureville.
Donan, Daniel Cummins, B. Ped., ..........................Hardyville.
Doyle, Chester Lawrence, B. M. E., ........................Chicago, Ill.
Dunn, Oswald Thorp, B. C. E., C. E., '03, ...............New Orleans, La.
Evans, Edwin Clinton, B. M. E., .............................London, Eng.
Ewell, George Watkins, A. B., ...............................U. S. Army.
Frazee, George Burbridge, B. M. E., .......................Steven's Point, Wis.
Gaither, Morton Williams, B. M. E., ........................Harrodsburg.
Grady, Clyde, A. B., A. M., '03, .............................Smith's Mills.
Hart, William Frederick, B. C. E., ..........................St. Louis, Mo.
Hatfield, Ulysses Grant, B. Ped., ............................Jabez.
Haynes, Robert, B. Ped., ......................................Robards.
Hoeing, Howard Aubrey, B. M. E., ..........................Cincinnati, Ohio.
Hoeing, Wallace, B. M. E., ...................................Louisville.
Hughes, William Neal, B. C. E., .............................Louisville.
Humphrey, Hubert Lee, B. M. E., ...........................Cleveland, Ohio.
Jackson, John Hunt, B. Ped., .................................New Columbus.
Jett, Charles Mills, B. M. E., ..................................Alleghany, Pa.
Jones, Theodore Tolman, A. B., A. M., '03, ..............Lexington.
Kehoe, John Hickey, B. M. E., ...............................Cynthiana.
Lawhorn, Jesse Sherman, B. Ped., ...........................Paris.
Lyne, William, B. M. E., .......................................Chicago, Ill.
Maddox, David Campbell, A. B., ............................Hickman.

Martin, Lewis Wynn, B. M. E., ........................... St. Louis, Mo.
Mason, Glenn Frank, B. S., M. S., '03, .................... Pittsburg, Pa.
McDonald, Samuel Gilbert, B. Agr. ........................... Chicago, Ill.
Moorman, Robert Emmett, B. C. E., ........................ Phoenixville, Pa.
Pulverman, William Edward, B. M. E., ...................... Philadelphia, Pa.
Smith, Chester Martin, B. M. E., ........................... Buffalo, N. Y.
Smith, Orville Francis, B. C. E., .......................... Phoenixville, Pa.
Stoner, John Lee, B. C. E., ................................ Pikeville.
Sumner, Herman, B. M. E., .................................. Chicago, Ill.
Taylor, Flemin Coffee, B. M. E., ........................... Chicago, Ill.
Taylor, Lewis Nelson, B. S., ............................... Science Hill.
Threlkeld, Lal Duncan, A. B., .............................. Salem.
Upington, George Rout, B. M. E., ........................... Philadelphia, Pa.
Warnock, Thomas Edwin, B. M. E., M. E., '03, ....... Chicago, Ill.
Williams, Cora, B. Ped., .................................... Bellevue.
Wilson, Richard Napoleon, B. M. E., ........................ Dayton, Ohio.

## 1903.

Austin, Mary Wickliffe, A. B., ............................. Paris.
Barkley, George LaRue, B. M. E., ........................... Springfield, Ill.
Bradley, Homer Theodore, B. M. E., ......................... Falmouth.
Brown, John Edwin, B. Agr., ................................ Shelbyville.
Bullock, Barry, A. B., ..................................... Lexington.
Chorn, Sarah Marshall, A. B., .............................. Lexington.
Cutler, Thomas Henry, B. M. E., ............................ Springfield, Ill.
Ellis, Richard Washington, B. M. E., ....................... Boston, Mass.
Elvove, Elias, B. S., ...................................... Washington, D. C.
Evans, Frederick Huston, B. M. E., ......................... Ironton, Ohio.
Finneran, James Cornelius, B. M. E., ....................... Beloit, Wis.
Finneran, Thomas Francis, B. C. E., ........................ Midway
Gaither, Edward Basil, B. M. E., ........................... Mexico.
Galloway, Clarence Albert, A. B., .......................... Owenton.
Hamilton, Lloyd Logan, B. M. E., ........................... Chicago, Ill.
Hancock, Mason Wallace, A. B, .............................. Columbia.
Heaton, Herman Creel, B. M. E., ............................ Cincinnati, Ohio.
Higgins, Lucy Joseph, A. B., ............................... Louisville.
Hutchings, John Bacon, B. C. E., ........................... Louisville.
Kelly, Edward Owen Guerrant, B. S., M. S., '04, ...... Lexington.
Lancaster, John Ralph, B. M. E., ........................... Cleveland, Ohio.
Lyle, Cornelius Railey, B. M. E., .......................... New York.
Marks, William Mathews, B. M. E., .......................... Versailles.
Marshall, Isabella West, A. B., ............................ Lexington.
McKee, Neal Trimble, B. M. E., ............................. Cleveland, Ohio.
McLaughlin, Marguerite, A. B., ............................. Lexington.
Miller, Mina Garrard, B. S., ............................... Elkton.
Naive, Miriam Wynter, B. S., ............................... Lexington.

Norvell, Lucy Hargis, A. B., ........................................Carlisle.
Peckinpaugh, Charles Leon, B. C. E., .......... ............ Louisville.
Pence, Alice Courtney, B. S., M. S., '04, ......................Lexington.
Perrine, Charles Duke, B. M. E., ..................................Maysville.
Rand, Edward, B. M. E., ........................... ...... .... Beloit, Wis.
Render, Fannie, A. B., ................. ..........................Hartford.
Rice, Guy Wickliffe, B. C. E., ...................................Lexington.
Sadler, Reuben Batson, B. S , M. S., '04, ......................Wilmore.
Shannon, Bernardette, A. B., ......... .... ..... ........ ... ..Lexington.
Spencer, Howell Mason, B. M. E., ............... ..... ......San Francisco, Cal.
Sprake, Eleanor Hedges, A. B., ................................Paris.
*Tandy, Clarke Howell, A. B., ......................... ......Oxford, Eng.
Thomas, Smith Riley, B. M. E., ............ ..... ................Beloit, Wis.
Thompson, John James, B. M. E., ..............................Cincinnati.
Vogt, John Henry Leon, B. M. E., ..............................Indianapolis, Ind.
Whitfield, Nellie Herbert, B. S., M. S., '04, ..................Lexington.
Whittinghill, Jackson Pate, B. S., .................. ........ ..Glendeane.
Whittinghill, Roscoe Timoleon, B. Ped., .................... Clarksville, Tenn.
Wurtele, Edward Conrad, A. B., .............................. Louisville.

## 1904.

Arnett, Richard Hood, B. Ped., .................................Troy.
Austin, Lillian, A. B., ...... ............ ..........................Paris.
Barclay, Robert Hargrave, B. E. M., ......................... Louisville.
Bell, Howard Kerfoot, B. S., B. C. E., .......................Midway.
Buford, Nancy Bell, A. B., ..........................................New Castle.
Butner, Robert Clarke, B. M. E., ...............................Lexington.
Clo, J. Harry, B. S , ............................................ ......Science Hill.
Coleman, Harry Raymond, B. Ped., .................. .........Latonia.
Crutchfield, William Boulden, A. B., ...... ....................Lexington.
Denny, Samuel Alfred, B. S., ........................... .......Madisonville.
Dowling, Edward Thomas, B. M. E., ......... .... ..... Lexington.
Doyle, Martin Augustus, B. M. E., ..............................Paris.
Dyer, Orville Kirk, B. M. E., ........................................De Koven.
Freeman, William Edwin, B. M. E., ...........................Lexington.
Fry, Henry Skillman, B. M. E., ..................................Lexington.
Gardner, James Henry, B. S., ...................... ..............Sonora.
Gary, William Edward, B. S., .....................................Pembroke.
Gilliland, Eugene, B. M. E., ..................... ..... ............Chenault.
Gilmore, Charles Robert, B S., ..................................Valley Oak.
Gordon, Amos Alvin, B. C. E., ...... ........ ... .......... Owensboro.
Grey, William David, B. C. E., ..................................Louisville.
Gullion, Carroll Hanks, B. M. E., ................. ............New Castle.
Harding, George Othniel, B. C. E., .............................Campbellsville.
Hart, Benjamin Robert, B. S., .....................................Pisgah.

*First Kentucky holder of Rhodes Scholarship.

Hart, Margaret Rebecca, A. B., .................................Pisgah.
Hedges, Fleming Dillard, A. B., ...... ........................Walton.
Hoagland, Roy Chan, B. S., . .................... ...........New Castle.
House, Beverly Pryor, A. B.,.......................................... Manchester.
Howard, Styles Ironton, B. M. E., .......................... Rockvale.
Hunter, Patrick Owen, B. M. E., .............................. Glendeane.
Jaeger, Helen Louise, A. B., ............................ ......Los Angeles, Cal.
Jenkins, Alexander Lewis, B. M. E., ........................Bloomfield.
Johnson, Frank Yarbrough, B. M. E., ......................Atlanta, Ga.
Johnston, Hampton Wallace, B. M. E., ..................... Lebanon.
Kelly, Walter Pearson, B. S., ..................................... Hickory Flat.
Lewis, Joseph Graham, B. C. E., ............................Oakland.
Madara, Helen Glenn, A. B., ...... ..............................Lexington..
Maguire, Mary Josephine, B. S., .............................. Lexington.
Matlick, Charles Aloysius, B. M. E.. .......................Lexington.
Matthews, John Eve, B. M. E., ......... .......................Barbourville.
McCann, Sue Dobyns, B. S. ........................................Lexington.
McCauley, James Simeon, B. M. E., ..........................Versailles.
McCaw, Eloise Chesley Hance, B. S., ..........................Pisgah.
Monson, Bessie Lee, B. Ped. ...... ...... ......... . . . ..... Shady Nook.
Montgomery, Francis Joseph, A. B.,..........................Lexington.
Nollau, Louis Edward, B. M. E. ...............................Louisville.
Payne, William Campbell, B. S., ...............................Lexington.
Peratt, Charles Oscar, A. B., ............................. .....Hilltop.
Pickles, George Wellington, B. C. E., ......................Richmond.
Porch, Madison B., B. S., ............ .. .........................Somerset.
Puckett, Honer, B. C. E., ................. ...... ............ Tonieville.
Ramey, Emerson Everett, B. M. E., ................. ........Carlisle.
Renz, Gertrude, B. S., ......................... ........... ......Louisville.
Rice, Heber Holbrook, B. S., .......... ..........................Cambridge, Mass.
Sandefur, James Franklin, A. B., ............................. Henderson.
Schneiter, Frederic Lewis, B. C. E.,.. ........................Louisville.
Schultz, Elmer Wilkerson, A. B. ..............................Lexington.
Shelby, John Craig, A. B., ........................................Cambridge, Mass.
Shobe, William Merritt, B. Agr., ............................. Oakland.
Smedley, Sarah Cleveland, A. B.,..............................Ft. Spring.
Smith, Claude Robert, B. S., .... ........................... ......Elizabethtown.
Smith, Thomas Marshall, B. S., ..................................Hooktown.
Stackhouse, Clifton Carr, B. M. E., ......................... Lexington.
St. John, Claire Porter, B. M. E., ..............................Brooklyn, N. Y.
Thurman, Zella Mae, B. S., ................. .......... ....... Somerset.
Tucker, Nannie Susan, A. B., ....................................Washington.
Vaughn, Earl Cleveland, A. B., ..................................Smithville.
Warder, William Henry, B. C. E., ..... .. ... ...........Glasgow.
Ware, Cornelius, B. Ped., ...................................... ...........Pulaski.

Wilkie, Margaret Donald Erskine, B. S. ........................ Lexington.
Wilson, George Hancock, B. S., ................................ Lexington.
Wurtele, Henry Joseph, B. C. E., .............................. Louisville.

## 1905.

Adamson, Keith Frazee, B. M. E., .............................. Milwaukee, Wis.
Akin, Allison, B. M. E., ...................................... Chicago, Ill.
Amoss, Harold Lindsay, B. S., ................................. Washington, D. C.
Baumgarten, Louis Erwin, B. M. E,, ............................ Chicago, Ill.
Bickel, Charles Alfred, B. M. E., ............................. Norwood, O.
Brashear, Sue Ashbrook, A. B., ................................ Cynthiana.
Bryan, Ruth Mitchell, A. B., .................................. Lexington.
*Burtt, Wilson Bryant, B. C. E., .............................. Lexington.
Campbell, Marion. B. S., ...................................... Louisville.
Cline, Edgar Allen, B. M. E., ................................. Philadelphia, Pa.
Coons, Joseph Morrison, B. C. E., ............................. Jeffersonville, Ind.
Darnall, Frank Kendrick, B. M. E., ............................ Wilkinsburg, Pa.
Dodd, Minnie Lee, B. S., ...................................... Louisville.
Drake, Jimmie, A. B., ......................................... Bristow, Ind. Ter.
Edwards, Harry Griswell, B. M. E., ............................ Schenectady, N. Y.
Eubank, Walter Pendleton, B. C. E., ........................... Cave City.
Gfroerer, Fannye Rosalie, B. S , .............................. Louisville.
Gilbert, George Hubbard, B. M. E., ............................ Chicago, Ill.
Grady, William Henry, B. M. E., ............................... Indianapolis, Ind.
Ham, Clarence Walker, B. M. E., ............................... Lexington.
Haynes, Chastain Wilson, B. S., ............................... Marion.
Ingels, Howard Payne, B. M. E., ............................... Berwick, Pa.
Johnston, Fayette, B. M. E., .................................. Lexington.
Kelly, William Cobb, B. C. E., ................................ Bloomington, Ill.
Kroell, Oscar R.. B. E. M., ................................... Lexington.
Layson, William George, B. M. E., ............................. Indianapolis, Ind.
Morris, Stewart Minor, B. M. E., .............................. Berwick, Pa.
Murphey, Ernest James, A. B., ................................. Pembroke.
Murrell, Artemus Delig, B. M. E., ............................. Beloit, Wis.
Ogg, Grace Truman, A. B., ..................................... Mt. Sterling.
Owens, Charles Beland, B. M. E., .............................. Berwick, Pa.
Payne, William Johnson, B. M. E., ............................. Georgetown.
Pierce, Claude Stone, A. B., .................................. Pulaski.
Pope, Henry B., B. E. M., ..................................... Lexington.
Powell, Max West, B. M. E., ................................... Beloit, Wis.
Prather, Harry Logan, B. M. E., ............................... Reno, Nev.
Ransom Edward Rogers, B. Agr., ................................ Ransom.
Roberts, Virgil Dick, B. M. E., ............................... Talbotton, Ga.
Rogers, Anna Gist, A. B., ..................................... Lexington.
Schoene, William J., B. Agr., ................................. Geneva, N. Y.
Scholtz, Herman Frederick, B. C. E., .......................... Louisville.

*From U. S. Military Academy, 1898.

Shipp, Joel Fithian, B. M. E., ........................................Norwood, O.
Sprake, James Breckinridge, B. M. E., ..........................Pittsburg, Pa.
Stiles, Elijah V. Bland, B. C. E., ....................................Hodgensville.
Thomas Bennett, B. M. E , ..............................................Lexington.
Tomlinson, Hugh Joseph, B. M. E., ..................................Wilkinsburg, Pa.
Tye, Rachel, A. B., ..........................................................Polleyton.
Urmston, Henry Howard, B. M. E., .................................Jackson, Tenn.
Wallis, Charles Reese, B. M. E., ......................................Norwood, Mass.
Walsh, Robert Bright, A. B., ...........................................Heidelberg, Ger.
Wathen, Sallyneill, B. S., ................................................Louisville.
Weaver, Walter Simeon, B. Agr., ....................................Bronson.
Webb, Elzie, B. C. E., .......................................................Covington.
Werness, Inga Marie, B. S., .............................................Louisville.
West, Howard Murphy, B. M. E., ....................................Nicholasville.
Woerner, Emma Josephine, B. S., ...................................Louisville.
Wood, Hugh Nelson, B. C. E., ..........................................Lexington.
Woosley, Herman, B. Agr., ...............................................Lexington.
Wright, Charles Roy, B. C. E., ..........................................Stanford.

# MILITARY DEPARTMENT.

FIRST LIEUT. W. B. BURTT, FIFTH U. S. INFANTRY,
*Commandant.*

## ROSTER OF THE CADET BATTALION.

*Staff.*

| ADJUTANT. | QUARTERMASTER. |
|---|---|
| G. Edgar. | T. M. Sprague. |

*Non-Commissioned Staff.*

| SERGEANT-MAJOR. | QUARTERMASTER-SERGEANT. |
|---|---|
| T. R. Bryant. | C. C. Kelly. |

COLOR-SERGEANTS.

B. McClelland. A. G. Yankey.

### BAND.

| CHIEF MUSICIAN. | SERGEANTS. | CORPORALS. |
|---|---|---|
| Ummethun. | King. | McGarvey. |
| PRINC. MUSICIAN. | Edwards. | Taylor. |
| Clary. | Taylor. | Wells. |
| DRUM MAJOR. | | Hamilton. |
| Cross. | | Blumenthal. |

### BATTERY.

| CAPTAIN. | SERGEANTS. |
|---|---|
| Paullin. | Adair. |
| FIRST. LIEUT. | McFerran. |
| Kirby. | Cornelison. |
| SEC. LIEUT. | CORPORALS. |
| Brewer. | Mathews. |
| | Lisle. |

### INFANTRY.

| A COMPANY. | B COMPANY. | C COMPANY. | D COMPANY. | E COMPANY. |
|---|---|---|---|---|
| CAPTAIN. | CAPTAIN. | CAPTAIN. | CAPTAIN. | CAPTAIN. |
| Branson. | Arnspiger. | Donan. | Steele. | Schoene. |
| FIRST LIEUT. | FIRST LIEUT. | FIRST LIEUT. | FIRST LIEUT. | FIRST LIEUT. |
| Allen. | Spears. | Acker. | | Estill. |
| SEC. LIEUT. | SEC. LIEUT. | SEC. LIEUT. | SEC. LIEUT. | SEC LIEUT. |
| Yager. | Battaile. | Vogt. | Craig. | Nichols. |
| FIRST SERG. | FIRST SERG. | FIRST SERG. | FIRST SERG. | FIRST SERG. |
| Kirk. | Sims. | Bogard. | Downing. | McCutcheon. |
| SERGEANTS. | SERGEANTS. | SERGEANTS. | SERGEANTS | SERGEANTS. |
| Browning. | Alden. | Green. | Fishback. | Earle. |
| Bowlds. | Bean. | Elam. | Wilkes. | Swartz. |
| Herring. | Bell. | Poynter. | Wilhoit. | Kiesel. |
| McPherron. | Orr. | Powell. | South. | Clay. |
| | | | Watson. | Roswell. |
| CORPORALS. | CORPORALS. | CORPORALS. | CORPORALS. | CORPORALS. |
| Bowden. | Alcorn. | Penrod. | Wilmot. | Ellis. |
| Chisholm. | Barbee. | Mosby. | Stackhouse. | Simmons. |
| Holland. | Crosthwaite. | Barr. | Shelby, W. | Wallace. |
| Howerton. | Garvin. | Bennett, C. | Bennett, B. | Worthington |
| Hudgins. | Riggs. | Greathouse. | Bennett, E. | Ryan. |
| | Grannis. | | Coons. | |

## POST-GRADUATES.

| | |
|---|---|
| Anderson, Henry Clay, B. M. E., | Ann Arbor, Mich. |
| Barkley, George La Rue, B. M. E., | Springfield, Ill. |
| Bewlay, Henry, B. M. E., | Chicago, Ill. |
| Bryan, John Irwin, B. M. E., | Pensacola, Fla. |
| Burtt, Wilson Bryant, B. C. E., | Lexington. |
| Carpenter, William Thomas, B. M. E., | San Diego, Cal. |
| Cox, Spencer Foster, B. M. E., | Philadelphia, Pa. |
| Daugherty, Frank, B. M. E., | Philadelphia, Pa. |
| Duncan, William Adolphus, B. M. E , | Philippine Islands. |
| Ellis, Richard Washington, B. M. E., | New York City. |
| Evans, Frederick Huston, B. M. E., | Peoria, Ill. |
| Frazee, George Burbridge, B. M.. E., | Louisville. |
| Harper, Joseph Nelson, B. S., | Clemson Col, S. C. |
| Jett, Charles Mills, B. M. E., | Lansing, Mich. |
| Kelly, Thomas Conway, B. M. E., | Cincinnati, O. |
| McDowell, Edward Campbell, B. M. E., | Berwick, Pa. |
| McKee, Neal Trimble, B. M. E., | Cleveland, O. |
| Nichols, Thomas Ashbrook, B. M. E., | Pittsburg, Pa. |
| Paddison, George Lucas, A. B., | Burgau, N. C. |
| Perrine, Charles Duke, B. M. E., | Swissvale, Pa. |
| Pope, Henry B., B. E. M., | Louisville. |
| Rand, Edward, B. M. E. | New York City. |
| Scrugham, James Graves, B. M. E., | Reno, Nev. |
| Simpson, Eugene Erwin, B. M. E., | Lexington. |
| Smith, Joshua Soule, B. M. E., | New York City. |
| Sweeny, Mary E., A. B., | Lexington. |
| Taylor, Lewis Nelson, B. S., | Science Hill. |
| Vogt, John Henry Leon, B. M. E., | Stearns. |

## UNDERGRADUATES.

### SENIORS.

| | | |
|---|---|---|
| Allen, David Hugh | Mech. Eng | Edna, Tex. |
| Atkins, Presley Thornton | Classical | Lexington. |
| Baxter, William Jefferson | Classical | Logana. |
| Bogard, Frank | Mech. Eng | Woodburn, Or. |
| Brown, Llewellyn Chauncey | Mech. Eng | Harrodsburg. |
| Bryan, Daniel Boone | Mech Eng | Lexington. |
| Cartwright, Coleman Clyde | Civ. Eng | Louisville. |
| Chinn, Alexander Julian | Mech. Eng | Frankfort. |
| Clo, Nelson Lewis | Mech. Eng | Science Hill. |
| Darling, Henry Bosworth | Mech. Eng | Carrollton. |
| Daugherty, Garrard | Scientific | Paris. |
| Downing, William Franklin | Mech. Eng | Lexington. |
| Dragoo, Robert Estill | Mech. Eng | Lexington. |

| | | |
|---|---|---|
| Du Valle, Rankin Powers | Civ Eng | Stamping Ground. |
| Edmonds, George Peck | Mech. Eng | Lebanon. |
| Freeman, Thomas Willmott | Mech. Eng | Duckers. |
| Goggin, Bessie Engleman | Scientific | Somerset. |
| Gough, Achilles Calloway | Mech. Eng | Benton. |
| Gregory, Mary Cottell | Classical | Louisville. |
| Hamilton, James Clay | Mech. Eng | Uniontown. |
| Hedges, Charles Cleveland | Scientific | Bnrlington. |
| Hopgood, Roy Caldwell | Mech. Eng. | Morganfield. |
| Hopson, Katharine Temple | Classical | Lexington. |
| Hutchcraft, Lucy Keller | Classical | Lexington. |
| Jones, Sadocie Connellee | Agriculture | Porter. |
| Kelly, Edward Patrick | Classical | Hawesville. |
| Kemper, William Priest | Civ. Eng | Millersburg. |
| Lancaster, Charles Prentice | Civ. Eng | Paris. |
| Lancaster, John Wilbur | Normal | Georgetown. |
| Letton, James Harvey | Civ. Eng | Paris. |
| Lewis, Alexander Thornton | Mech. Eng | Frankfort. |
| Magee, Wallace Hopkins | Mech. Eng | Louisville. |
| Mahan, Fred Coyt | Mech. Eng | Hyattsville. |
| Mahoney, Margaret Elizabeth | Scientific | Bedford. |
| McClelland, Byron | Scientific | Walnut Hill. |
| McCulloch, Eugenia Susan | Scientific | Louisville. |
| McDowell, Omar | Mech. Eng | Mt. Olivet. |
| McHargue, James Spencer | Scientific | Boreing. |
| McPherson, Charles Jarrett | Mech. Eng | Hopkinsville. |
| Montgomery, George Carter | Mech Eng | Liberty. |
| Moore, Henry Ray | Mech. Eng | Lebanon. |
| Newman, James Cleveland | Mech. Eng | Lexington. |
| Nisbet, James Clarence | Civ. Eng | Madisonville. |
| Nunnelley, Eva May | Classical | Lexington. |
| Rankin, French Warder | Mech. Eng. | Cynthiana. |
| Read, Henry English | Mech. Eng. | Hodgensville. |
| Riefkin, Philip | Mech. Eng. | Newport. |
| Robinson, Herman Clayton | Mech. Eng. | Georgetown. |
| Rogers, James Dell | Civ. Eng | Louisville. |
| cott, Henry Skillman | Mech. Eng. | Bement, Ill. |
| Scott, Mary Estill | Scientific | Richmond. |
| crugham, Mary | Classical | Lexington. |
| ellman, Frank Raymond | Mech. Eng | Nicholasville. |
| Smith, Maxwell Waide | Civ. Eng. | Hot Springs, Ark. |
| Stevens, Harold Edwin | Agriculture | Pruett. |
| aylor, Hugh Wilbur | Agriculture | Lewisport. |
| errill, Robert Craig | Civ. Eng. | Bedford. |
| rice, John Buckner | Mech. Eng | Hopkinsville. |
| olkman, Alice | Classical | Louisville. |

| | | |
|---|---|---|
| Wallis, Anna | Classical | Lexington. |
| Warren, Joseph Evans | Scientific | Lexington. |
| Weir, Fanny | Classical | Louisville. |
| Wendt, Wiley | Civ. Eng | Newport. |
| Whitlock, Albert Newton | Classical | Richmond. |
| Wiley, Rodman | Civ. Eng | White Sulphur. |
| Wilkie, Florence | Classical | Lexington. |
| Wilkie, Margaret Donald Erskine | Classical | Lexington. |
| Wilson, Horace Hildebrand | Mech. Eng | Lexington. |

JUNIORS.

| | | |
|---|---|---|
| Acker, Robert Lewis | Civ. Eng | Paducah. |
| Alexander, Josie | Classical | Paris. |
| Allan, John Griffin | Civ. Eng | Owensboro. |
| Ammerman, John Rogers | Mech. Eng | Cynthiana. |
| Arnspiger, Rodes | Scientific | Lexington. |
| Baer, Stanley T. | Civ. Eng | Louisville. |
| Bagby, Mary Logan | Classical | Danville. |
| Barker, Maxwell Sharp | Mech. Eng | Louisville. |
| Boggess, Louis Sterling | Civ. Eng | Lawrenceburg. |
| Branson, Dom Pedro | Agriculture | Dye. |
| Brown, William Waters | Civ. Eng | Shelbyville. |
| Carmody, Catherine Gertrude | Classical | Mt. Sterling. |
| Carse, Robert Allen | Mech. Eng | Richmond. |
| Coleman, Samuel Boin | Civ. Eng | Elkton. |
| Crafton, Milton Cooksie | Civ, Eng | Henderson. |
| Craig, Berwick Stanley | Mech. Eng | Versailles. |
| Cram, Ambrose Byrd | Civ. Eng | Morgan. |
| Crawley, Alice | Classical | Louisville. |
| Crenshaw, Anne Scott | Classical | Versailles. |
| Denham, Ernest Myers | Civ. Eng | Williamsburg. |
| Dodd, Daniel Jackson | Civ. Eng | Lexington. |
| Donan, Arthur Liston | Civ. Eng | Three Springs. |
| Dowling, Anna | Classical | Louisville. |
| Durham, William Humphrey | Normal | Humphrey. |
| Edgar, Graham | Scientific | Paris. |
| Estill, David Chenault | Mech. Eng | Farmdale. |
| Farrell, Walter Agustus | Mech. Eng | Dayton. |
| Fish, Clarence Beauchamp | Normal | Lexington. |
| Gilbert, Lillian C. | Classical | Lexington. |
| Gordon, Flora McPheeters | Classical | Frankfort. |
| Grunwell, Paul Clifton | Mech. Eng | Centreville. |
| Hamilton, William Shacklette | Classical | Brandenburg. |
| Hart, Robert Singleton | Classical | Pisgah. |
| Hermann, Joseph George | Civ. Eng | Newport. |
| Hillenmeyer; Louis Edward | Agriculture | Lexington. |

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|---|---|---|
| Howard, Guylie Benton | Mech. Eng | Rockvale. |
| Karsner, Albert Sharkey | Civ. Eng | Lexington. |
| Kelley, Richard Henry | Civ. Eng | Fulton. |
| Kirby, Augustus Montillmon | Classical, | Baker. |
| Kornfeld, Louise Maria | Scientific | Louisville. |
| Lawson, Fayette Hewitt | Mech. Eng | Shively. |
| Lazarus, Goldye Theo | Scientific | Louisville. |
| Lewis, Leo Logan | Mech. Eng | Lexington. |
| Lewis, Viola Cosby | Classical | Louisville. |
| Lockridge, Mary Andrew | Classical | Mt. Sterling. |
| Maddocks, Florence May | Scientific | Carrollton. |
| Madison, James Talbot | Civ. Eng | Cynthiana. |
| Mahan, Charles Alfred | Agricultural | Lancaster. |
| McClelland, Thomas Brown | Classical | Lexiugton. |
| McKinney, Walter | Mech. Eng | Mt. Salem. |
| Nicholas, Evelyn Van Meter | Classical | Lexington. |
| Nicholls, William Durrett | Agricultural | Bloomfield. |
| Nunnelley, James Robert | Mech. Eng | Lexington. |
| Ott, Thomas Foreman | Scientific | Lexington. |
| Parrish, Charles Swift | Classical | Lexington. |
| Paullin, Frank Chester | Civ. Eng | Springfield, Ill. |
| Piper, Mary Hammond | Classical | Lexington. |
| Rankin, Fred Jones | Mech. Eng | Rankin. |
| Rees, Elijah Latham | Civ. Eng | Lexington. |
| Rule, Perrin | Mech. Eng | Falmouth. |
| Scherffius, Benjamin Franklin | Agricultural | Lynnville. |
| Schoene, Charles Edgar | Mech. Eng | Henderson. |
| Shannon, Philip Francis | Civ. Eng | Lexington. |
| Spears, Howell Davis | Scientific | Lexington. |
| Sprague, Joseph Mills | Mech. Eng | Caseyville. |
| Stigers, James Francis | Civ. Eng | Frankfort. |
| Stiles, Mildred | Classical | Lexington. |
| Stone, Francis Marion | Mech. Eng | Flemingsburg. |
| Strachan, George Morris | Civ. Eng | Louisville. |
| Sumner, Gordon | Civ. Eng | Greenville. |
| Thomas, John William | Mech. Eng | Georgetown. |
| Thorne, James Webstein | Mech. Eng | Louisville. |
| Towery, Beverly Todd | Classical | Marion. |
| Vandercook, Ralph | Civ. Eng | Springfield, Ill. |
| Wallis, Elizabeth Ward | Scientific | Lexington. |
| Webster, Margaret Butler | Classical | Louisville. |
| Woodward, William Deane | Civ. Eng | Beaver Dam. |
| Yager, John Joel | Mech. Eng | Leitchfield. |

## SOPHOMORES.

| | | |
|---|---|---|
| Adair, George Stolworthy | Mech. Eng | Paris. |
| Alden, William Oliver | Civ. Eng | Petersburg. |
| Allen, Lutie Darnall | Classical | Lexington. |
| Babbage, Arthur Wallace | Classical | Cloverport. |
| Battaile, James Frank | Mech. Eng. | Lexington. |
| Bean, Louis Vimont | Civ. Eng | Lexington. |
| Beaumont, Arthur Bishop | Scientific | Mayfield. |
| Becker, Theodore Henry | Scientific | Louisville. |
| Bell, Benjamin Duncan | Mech. Eng | Nicholasville. |
| Bennett, Benjamin Warfield | Mech. Eng | Lexington. |
| Blessing, Paul Nestle | Mech. Eng | Carrollton. |
| Bogard, George Taylor | Mech. Eng | Golden Pond. |
| Bowden, Aberdeen Orlando | Classical | Sedalia. |
| Bowlds, Fleming | Scientific | Philpot. |
| Brewer, Bruce Elder | Agricultural | Williamstown. |
| Brewer, Leo | Classical | Mayfield. |
| Brockman, George Fred | Min. Eng | Louisville. |
| Browning, John Keith | Mech. Eng | Maysville. |
| Bryant, Thomson Ripley | Agricultural | Eminence. |
| Buchanan, Allie Stout | Mech. Eng | Payne's Depot. |
| Buckner, Ella Simpson | Classical | Lexington. |
| Buckner, Garrett Davis | Scientific | Lexington. |
| Carmody, John Paul | Mech. Eng | Mt. Sterling. |
| Carter, Sara McEachin | Classical | Lexington. |
| Clary, Howe Boyd | Mech. Eng | Moorefield. |
| Clay, James Thomas | Mech. Eng | Paris. |
| Clay, Roby Wornall | Min. Eng | Lexington. |
| Conway, Clarence Dexter | Civ. Eng. | Millersburg. |
| Cornelison, Hubert LeGrand | Mech. Eng | Richmond. |
| Crowder, Margaret Lee | Classical | Sinai. |
| Curtis, James Stewart | Mech. Eng | Lexington. |
| Dabney, Sidney Vaughn | Civ. Eng. | Paducah. |
| Daugherty, Helen Lucile | Classical. | Paris. |
| Denham, Newton Randolph | Min. Eng | Williamsburg. |
| Dodson, Walter Cleveland | Normal. | Monticello. |
| Douglas, Ernest Thompson | Mech Eng. | Owenton. |
| Downing, Harry Hardesty | Civ. Eng. | Lexington. |
| Earle, Irbie Benjamin | Civ. Eng | Madisonville. |
| Elam, Arthur Matthew | Mech. Eng | Ashland. |
| Elliott, Nannie Porter | Scientific. | Somerset. |
| Feland, Faris Robinson | Classical. | Lawrenceburg. |
| Fried, Sienna Kathryn | Scientific. | Lexington. |
| Galloway, Clinton Robert | Mech. Eng | Falmouth. |
| Gilbert, James William | Mech. Eng | Owensboro. |
| Graham, Frank Heber | Mech. Eng | Bowling Green. |

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|---|---|---|
| Grannis, James Kidwell | Civ. Eng | Flemingsburg. |
| Green, Warren Thornton | Mech. Eng | English. |
| Guerrant, Russell Hamilton | Mech. Eng | Wilmore. |
| Hamilton, William Perry Browning | Mech. Eng | Lexington. |
| Hanna, Aline Guthrie | Classical | Lexington. |
| Hartfield, Rosalie Amelia | Normal | Henderson. |
| Heenan, Joseph Harper | Scientific | West Point. |
| Herring, Henry Lemuel | Mech. Eng | Oakville. |
| Holland, Reuben Miller | Classical | Whitesville. |
| Howerton, Thomas McCluskey | Civ. Eng | Shelbyville. |
| Hudson, William Edward | Civ. Eng | Godfrey. |
| Humphrey, Robert Andrus | Mech. Eng | Lexington. |
| Hutchcraft, David Keller | Mech. Eng | Lexington. |
| Jewell, John Berry | Classical | Lexington. |
| Johnson, Betsey Herndon | Classical | Muir. |
| Johnson, Mary Smith | Classical | Muir. |
| Kelley, Cott C | Civ. Eng | Hickory Flat. |
| Kiesel, Walter Christian | Mech. Eng | Carrollton. |
| Kirk, Estill | Civ Eng | Philpot. |
| Kirk, Maurice Cushman | Mech. Eng | Maysville. |
| Manning, George Madison | Classical | Manchester. |
| Martin, Grace Lee | Classical | Lexington. |
| Martin, Sadie Spears | Classical | Visalia |
| Mathers, Albert Marion | Mech. Eng | Carlisle. |
| Mathews, William Chamberlain | Mech. Eng | Mayslick. |
| McCauley, Joseph Muir | Mech Eng | Morganfield. |
| McCorkle, Graham King | Mech. Eng | Eminence. |
| McCutcheon, Jesse Robert | Mech. Eng | Beattyville. |
| McFerran, Warren Viley | Mech. Eng | Versailles. |
| McGarvey, Henry Earl | Classical | Lexington. |
| McPheron, Robert Lee | Scientific | McGuffey. |
| Melton, James Leslie | Civ. Eng. | Marion. |
| Metzler, Daniel | Mech. Eng | Louisville. |
| Oldham, Edwin Bronston | Mech. Eng | Lexington. |
| Orr, Thomas James | Mech. Eng | Princeton. |
| Pence, Christina | Classical | Lexington. |
| Penn, John Buford | Civ. Eng | Georgetown. |
| Penrod, Alphon | Mech. Eng | Lexington. |
| Pogue, Laythom Joel | Mech. Eng | Mayslick. |
| Porter, Colton Alexander | Mech. Eng | Louisville |
| Powell, Jeremiah Harrison | Classical | Richmond. |
| Poynter, Arthnr Lawrence | Mech. Eng | Royce, Tex. |
| Preston, William | Classical | Lexington. |
| Purnell, Mary Agnes | Scientific | Lexington. |
| Rardon, Jack Rickaby | Mech Eng | Newport. |
| Rice, Clayton Jefferson | Civ. Eng | Greenville. |

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|---|---|---|
| Rodes, Joseph Waller, Jr | Civ. Eng | Lexington. |
| Rodes, William, Jr | Scientific | Lexington |
| Roswell, Charles Miller | Mech. Eng | Sparta. |
| Sampson, Reid Johnson | Min. Eng | Middlesboro. |
| Samuel, Robert Lovell | Mech. Eng | Maysville. |
| Scearce, George Gwyn | Scientific | Frankfort. |
| Schultz, Henry Jacob | Mech. Eng | Louisville. |
| Scott, Robert Dumont | Civ. Eng | Lexington. |
| Shanklin, Shelby | Classical | Lexington. |
| Shelby, William Washington | Min. Eng | Henderson. |
| Sims, Robert Lee | Mech. Eng | Lexington, Mo. |
| Smith, Milton Sears | Mech. Eng | Nicholasville. |
| Speyer, Harry Aaron | Scientific | Kansas City. |
| Steele, Arthur Winslow | Mech. Eng | Yarnallton. |
| Steinert, Louise Franzman | Scientific | Versailles. |
| Stoll, John William | Scientific | Lexington. |
| Stone, Neville Earl | Civ. Eng | Hopkinsville. |
| Swartz, Guy Taylor | Mech. Eng | Carlisle. |
| Swearingen, William Roy | Civ. Eng | Paris. |
| Sweeny, Sunshine | Classical | Lexington. |
| Taylor, Guy Baker | Scientific | Lexington. |
| Townsend, Hal Eubank | Mech. Eng | Bowling Green. |
| Turner, John McLeod | Civ. Eng | Monkton, Md. |
| Veal, Grey Roscoe | Mech. Eng | Sedalia. |
| Vogt, Frank Sherman | Civ. Eng | Louisville. |
| Walker, Madie Lee | Classical | Lexington. |
| Warren, Joseph Evans | Mech. Eng | Donerail. |
| Watson, James Saffel | Civ. Eng | Lexington |
| Wells, Emery | Civ. Eng | Lexington. |
| Wilhoite, Azra Lytle | Mech. Eng | Utica |
| Wilkes, Francis Marshall | Mech. Eng | Washington. |
| Wilson, James Morrison | Civ. Eng | Louisville. |
| Wilson, Robert Clyde | Mech. Eng | Lexington. |
| Yates, Howard Clifford | Classical | Covington. |
| Young, Ralph Gray | Civ. Eng | Covington. |

FRESHMEN.

| | | |
|---|---|---|
| Akers, Mary Elizabeth | Classical | Lexington |
| Akers, Susan Gray | Classical | Lexington. |
| Alcorn, John Griffin Carlisle | Civ. Eng | Hustonville. |
| Alexander, William Jasper | Classical | Owenton. |
| Allison, Leon Metcalfe | Mech. Eng | Head Quarters. |
| Ballard, Joseph Hogan | Mech. Eng | Bryantsville. |
| Barbee, George Read | Civ. Eng | Lexington. |
| Barbee, Richard Carroll | Civ. Eng | Lexington |
| Barr, Edgar Wallace | Mech. Eng | Bowling Green. |

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|---|---|---|
| Beach, Charles | Mech. Eng | Beattyville. |
| Bell, Thomas C. | Mech. Eng | Harrodsburg. |
| Bennett, Edgar | Mech. Eng | Basin Springs. |
| Black, Marion | Classical | Hartford. |
| Blumenthal, Philip | Scientific | Lexington. |
| Boales, Maxwell Ellis | Mech. Eng | Hopkinsville. |
| Bright, Robert M. | Scientific | Lexington. |
| Byars, David Owen | Civ. Eng | Simpsonville. |
| Cabrera, Pedro Rafael | Agricultural | Managua, Nic. |
| Cannon, Harry Sharp | Classical | Nicholasville. |
| Carpenter, Hubert Craig | Mech. Eng | Stanford. |
| Carroll, Tarlton Combs | Classical | Louisville. |
| Caudill, Stephen E | Civ. Eng | Whitesburg. |
| Cawood, Frank Finley | Civ. Eng | Harlan. |
| Chapman, Glenn K. | Civ. Eng | Owensboro. |
| Chinn, Aubyn | Classical | Frankfort. |
| Chisholm, Otha Balfour | Classical | Acton. |
| Coons, John W. | Civ. Eng | Mt. Sterling. |
| Creekmore, Ross Addison | Scientific | Lexington. |
| Cross, Philip Byrnes | Civ. Eng | Los Angeles, Cal. |
| Crosthwaite, John Scarce | Classical. | Lexington. |
| Daugherty, Samuel Fred | Mech. Eng | Maysville. |
| Davis, Harry Arnold | Normal | Maysville. |
| Dean, Willis Johnson | Civ. Eng | Owensboro. |
| Doss, George Force | Mech. Eng | Shelbyville. |
| Dufour, Thomas Perry | Civ. Eng | Carrollton. |
| Duncan, James William | Civ. Eng | |
| Edwards, Kenneth Scott | Mech. Eng. | Ludlow. |
| Eifort, Harry | Mech. Eng | Ashland. |
| Elliott, Alvin Clarence | Scientific | Humphrey. |
| Ellis, Cecil Byrne | Classical | Treacy. |
| Fields, Melvin Green | Civ. Eng | Lexington. |
| Fishback, James Morgan | Mech. Eng | Pine Grove, |
| Garman, Frederick | Scientific | Lexington. |
| Garrett, Robert | Classical | Ft. Garrett. |
| Garvin, Cecil Clement | Civ. Eng | Olive Hill. |
| Gilbert, James William | Mech. Eng | Owensboro. |
| Goodwin, William Ingram | Scientific | Lexington. |
| Greathouse, William Wesley | Agricultural | Versailles. |
| Haff, Robert Schuyler | Civ. Eng | Frankfort. |
| Haley, Thomas Lander | Mech. Eng | Clintonville. |
| Hamilton, Alexander Phillips | Mech. Eng | Uniontown. |
| Hardesty, Lizzie Belle | Scientific | Muir. |
| Hart, Lucy Thomas | Classical | Winchester. |
| Haynes, Clyde Givens | Mech. Eng | Morganfield. |
| Holliday, Ben Louis | Mech. Eng | Carlisle. |

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|---|---|---|
| Hopgood, John Allen | Mech. Eng | Morganfield, |
| Hord, Winn Estill | Scientific | Maysville. |
| Horine, Ernest England | Mech. Eng | Nicholasville. |
| Hudgins, Thomas | Mech. Eng | Olive Hill. |
| Hurt, Maxey E | Civ. Eng | Russellville. |
| Irvine, Oscar W | Scientific | Greenville. |
| Jackson, Samuel Texas | Classical | Clinton. |
| Johns, Charles Ashley | Mech. Eng | Lexington. |
| Karrick, Claude R | Mech. Eng | Cynthiana. |
| Kaufman, Sara Rachel | Scientific | Lexington. |
| Keeney, Arden Belknap | Mech. Eng | Middlesboro. |
| King, Abner William | Mech. Eng | Bardstown. |
| Lee, Wallace Caplinger | Classical | Campbellsburg |
| Lisle, Andrew | Civ. Eng | Richmond. |
| Logan, Emmett | Agricultural | Bowling Green. |
| Luten, Inez Ware | Classical | Cayce. |
| Magruder, Orion | Mech. Eng | Utica. |
| Marks, Louis | Mech. Eng | Versailles. |
| Marshall, Eleanor Peace | Scientific | Frankfort. |
| Mastin, James Edward | Agricultural. | Versailles. |
| McAlister, George Matthew | Classical | Lexington. |
| McDowell, William Cochran | Civ. Eng | Lexington |
| McMillan, Robert Raymond | Mech. Eng | Paris. |
| McNamara, William Ignatius | Mech. Eng | Lexington |
| Manville, Felix Arthur | Mech. Eng | Hounea, La. |
| Montgomery, Philip O'Bryan | Mech. Eng | Elizabethtown. |
| Moore, Virgil Yandel | Classical | Marion. |
| Murphy, William B | Civ. Eng | Owensboro. |
| Neblett, Patrick Henry | Classical | Turner's Station. |
| Neighbors, Jesse Thomas | Mech. Eng | Glendale. |
| Oberdorfer, Henrietta | Classical | Paris. |
| Orem, Eugene B | Min. Eng | Campbellsburg. |
| Orem, Virgil Campbell | Agricultural | Campbellsburg. |
| Powell, Frank Congleton | Mech. Eng | Carlisle. |
| Power, Henry Carroll | Mech. Eng | Flemingsburg. |
| Proctor, Bennet McCreary | Mech. Eng | Lexington. |
| Rankin, Harry Lee | Mech. Eng | Harrodsburg. |
| Rapier, Stephen A | Civ. Eng | Bardstown. |
| Rice, Harvey Jefferson | Mech. Eng | Maysville. |
| Riedel, Gustavus | Mech. Eng | Holt. |
| Robinson, Benjamin F | Civ. Eng | Lexington. |
| Rodes, Mary McEachin | Classical | Lexington. |
| Ryan, Charles Obie | Classical | Monticello. |
| Sanders, Hugh Berkley | Scientific | Kirkwood. |
| Sayers, Warner | Mech. Eng | Erlanger. |
| Scherffius, Frederick Fanon | Agricultural | Lynnville. |

| | | |
|---|---|---|
| Schultz, Oscar Lewis | Civ. Eng | Hartford. |
| Scott, George Thomas | Agricultural | Earle's. |
| Scott, Louis Pelot | Scientific | Carlisle. |
| Sellman, Robert Jesse | Mech. Eng | Nicholasville. |
| Shemwell, Allen Henry | Civ. Eng | Birdsville. |
| Shryock, William Mason | Civ. Eng | Lexington. |
| Silva, Albert DeVera | Mech. Eng | Newport. |
| Simmons, James McCreary | Scientific | Richmond. |
| Slicer, Amos | Mech. Eng | Paris. |
| Smarr, Roy Whitaker | Civ. Eng | Brooksville. |
| Smith, Arthur Irvin | Agricultural | Campbellsburg. |
| Smith, George Kendall | Agricultural | Lewisport. |
| Spradling, Marvin Clyde | Classical | Berry. |
| Stackhouse, William Owsley | Classical | Lexington. |
| Stivers, Mattie Huffman | Classical | Paris |
| Stout, Benjamin Stewart | Civ. Eng | Owensboro. |
| Talbott, Daniel Cline | Mech. Eng | Middletown. |
| Taylor, Harry E | Min. Eng | |
| Taylor, Humphrey Ward | Mech. Eng | Washington. |
| Taylor, Newton Stout | Mech. Eng | Carrollton. |
| Thrasher, Marion | Civ. Eng | Hawesville. |
| Thurman, Allen Guy | Mech. Eng | Mt. Washington. |
| Trice, Walter Graham | Agricultural | Hopkinsville |
| Ummethun, Albert Howard | Mech. Eng | Frankfort. |
| Vaughan, Frank | Min. Eng | |
| Waddell, Benjamin Lee | Classical | Somerset. |
| Wall, William Harrison | Classical | Cayce. |
| Wallace, Leonard DeLong | Classical | Lexington. |
| Waller, William John | Mech. Eng | Morganfield. |
| Wells, Charles D | Civ. Eng | Bardstown. |
| White, Charles, | Mech. Eng | Warsaw. |
| Williams, Byron Demetrius | Mech. Eng | Crofton. |
| Wilson, Benjamin Dunbar | Scientific | Lexington. |
| Worthington, Elmer Francis | Agricultural | Morgan. |
| Yankey, Andrew George | Civ. Eng | Springfield |

NOT CLASSIFIED.

| | | |
|---|---|---|
| Bird, James Robert | Agricultural | Shelbyville. |
| Boone, Samuel Hiram | Agricultural | Wolf Creek. |
| Celsor, Edward | Agricultural | Fountain Run. |
| Greene, Robert Scott | Agricultural | Falls of Rough. |

## NORMAL STUDENTS.

### FOR THE STATE DIPLOMA.

| | | |
|---|---|---|
| Baker, James McD. | Tyrone | Anderson. |
| Bewlay, Willard | Lexington | Fayette. |
| Coons, Lester | Lexington | Fayette. |
| Crawford, Tarleton | Lynn Grove | Calloway. |
| Edwards, Richard | Murray | Calloway. |
| Kirk, Theodore Tilton | Owensboro | Daviess. |
| Maddox, Robert Lee | Mayfield | Graves. |
| Million, Jackson | Richmond | Madison. |
| Patrick, Wellington | Salyersville | Magoffin. |
| Park, Sue Embry | Richmond | Madison. |
| Reiter, Wilhelm | Fredonia | Ohio. |
| Spears, Clarence Louis | Mayfield | Graves. |
| Stiles, Imogen | Chicago | Cook, Ills. |
| Wathen, Benedict | Morganfield | Union. |

### FOR THE STATE CERTIFICATE.

| | | |
|---|---|---|
| Adcock, Lois Elizabeth | Hopkinsville | Christian. |
| Alexander, Leslie | Benton | Marshall. |
| Anderson, Charles Breckinridge | Dudley | Rockcastle. |
| Bowlds, Clarence | Philpot | Daviess. |
| Brown, Ira | Humphrey | Casey. |
| Congleton, Beulah | Lexington | Fayette. |
| Conley, Nellie Ray | Louisa | Lawrence. |
| Eastwood, George | Hanson | Hopkins. |
| Elliot, Rhoda | Humphrey | Casey. |
| Florence, David Vanhook | Cynthiana | Harrison. |
| Franz, Jessie | Greenup | Greenup. |
| Goodwin, Irma Graves | Cerulean | Trigg. |
| Goodwin, Docia Baker | Cerulean | Trigg. |
| Goins, Charles | Manchester | Clay. |
| Gunnell, Leona Erie | Louisa | Lawrence. |
| Hamilton, Lucien | Edmonton | Metcalfe. |
| Harrod, Hallie Corinne | Frankfort | Franklin. |
| Hazelrigg, Herbert Eben | Masonville | Daviess. |
| Hoagland, Joseph | Clear Run | Ohio. |
| Hooge, Anna | McHenry | Ohio. |
| Hoover, Margaret Ola | Friedaland | Ohio. |
| Holbrook, John Pendleton | Livia | McLean. |
| Hounchell, Francis Marion | Manchester | Clay. |
| Hubbard, Alpha | Hubbard | Metcalfe. |
| Hughes, Bessie | Edenton | Clark. |
| Ison, Eliza | Bryantsville | Garrard. |
| Jackson, Lora Dean | Greenup | Greenup. |

| | | |
|---|---|---|
| Johnson, Emma | Paintsville | Johnson. |
| Johnson, William W | Holland | Allen. |
| Johnson, Reed Spenser | Pikeville | Pike. |
| Johnston, Carroll | Greenup | Greenup. |
| Lewis, James Otis | Stanley | Daviess. |
| McDaniel, Oscar Pearl | Ewing | Fleming. |
| Mitchell, Lottie Lee | Nicholasville | Jessamine. |
| Monroe, Lilian Alice | Rockport | Ohio. |
| O'Brien, Janet | Louisa | Lawrence. |
| Pence, Homer Lee | Marksbury | Garrard. |
| Perkins, William Lee | West Liberty | Morgan. |
| Peratt, William | Sapp | Fleming. |
| Pope, Susie Marian | Springfield | Washington. |
| Rader, Roy Edward | Annville | Jackson. |
| Reynolds, Wayne Stanley | Fordsville | Ohio. |
| Rice, Herman | Chambers | Hancock. |
| Roberts, Sue Clark | Owenton | Owen. |
| Robertson, Isaac William | Smithland | Livingston. |
| Robertson, Thomas Marion | Smithland | Livingston. |
| Shultz, William Claude | Narrows | Ohio. |
| Shuff, Jesse | Georgetown | Scott. |
| Skeens, Jimison | Louisa | Lawrence. |
| Sievers, William | Nancy | Pulaski. |
| Smithson, Elizabeth | Hopkinsville | Christian. |
| Smith, David Hill, Jr | Harlan | Harlan. |
| Stewart, Oscar | Select | Ohio. |
| Stivers, Orville | Buechel | Jefferson. |
| Turner, Chester Field | Glasgow | Barren. |
| Watkins, Rena | New Castle | Henry. |
| Watkins, Maude | New Castle | Henry. |
| Webb, Erle Benton | Willard | Carter. |
| Whittaker, Jesse Campbell | Hazard | Perry. |
| Wilson, Meek Boyd | Linnville | Graves. |

## FOR THE COUNTY CERTIFICATE

| | | |
|---|---|---|
| Akin, Paris Benjamin | Burlington | Boone. |
| Austin, James | Louisa. | Lawrence. |
| Baird, David | Henderson | Henderson. |
| Baker, Hodge Pomeroy | Cadiz | Trigg. |
| Ballard, Linda | Mt. Vernon | Rockcastle. |
| Bogie, Ina Prather | Irvine | Estill. |
| Bonta, Margie | Springfield | Washington. |
| Bowman, Harriet Elizabeth | Porter | Scott. |
| Buchanan, Archibald | Frenchburg | Menifee. |
| Burchfield, James | Pineville | Bell. |
| Campbell Stephen | Booneville | Owsley. |

| | | |
|---|---|---|
| Chipman, Batta | Williamstown | Grant. |
| Connella, Adelaide | Buechel | Jefferson |
| Cunningham, Eleanor | Cadiz | Trigg. |
| Dickerson, Eugene | Beattyville | Lee. |
| Dixon, Robert Lee | Hyden | Leslie. |
| Dixon, Bristow Boyd | Hyden | Leslie. |
| Douglas, Matilda | Richmond | Madison. |
| Edwards, Benjamin Franklin | College Hill | Madison |
| Eversole, Elijah | Manchester | Clay. |
| Ford, Jennie Lee | Georgetown | Scott. |
| Garrett, Eugene | Booneville | Owsley. |
| Glass, James Howard | Lexington | Fayette. |
| Hill, Harry Swift | Paris | Bourbon. |
| Hopper, Lucy | Cadiz | Trigg. |
| Hounchell, Chester Arthur | Manchester | Clay. |
| Hutchison, Lyle | Nepton | Fleming |
| Jackson, Inez | Greenup | Greenup |
| Jones, James Black | Harlan | Harlan. |
| Kirk, Herschell | Owensboro | Daviess. |
| Laswell, Jack Moore | Orlando | Rockcastle. |
| Lewis, George | Tannery | Lewis. |
| Liddell, Bethia | New Castle | Henry. |
| Luton, Albert | Golden Pond | Trigg. |
| Meece, Thomas | Colo | Pulaski. |
| Moreland, Owen | Georgetown | Scott. |
| Palmer, Hollie | Henderson | Henderson |
| Pennington, Emma | Mt. Vernon | Rockcastle |
| Pope, John Miller | Harlan | Harlan. |
| Regenbogen, Emile | Hebron | Boone. |
| Rudd, Regina | Springfield | Washington |
| Sandusky, Nellie | Monticello | Wayne |
| Scott, Ernest | Greenville | Muhlenberg |
| Sheldon, Frederic | Louisville | Jefferson |
| Sievers, Fred | Waterloo | Pulaski. |
| Simpson, John Sidney | Williamstown | Grant. |
| Smith, Maggie | Harrodsburg | Mercer. |
| Smith, Albert Lee | Guston | Meade. |
| Stambaugh, Francis | Paintsville | Johnson. |
| Suttles, John | Frankfort | Franklin |
| Utley, Zena | Dalton | Caldwell |
| Weddle, Herbert Cain | Waterloo | Pulaski. |
| West, Maud Ann | Miller's Creek | Estill. |
| Wooton, Felix | Hyden | Leslie. |
| Wooton, Dennis | Hyden | Leslie. |

# ACADEMY STUDENTS.

## FIRST YEAR STUDENTS.

Alexander, Jay ..................................................Wheatley.
Baker, Milton Ramsey .................................................. Lexington.
Barrows, Willard Dante..................................................Dixon.
Bird, Robert Arthur .................................................. DeMossville.
Bitterman, Clifford. ..................................................Lexington.
Brooks, Essie Stanley..................................................Bryantsville.
Clark, Laurence Hamilton.................................................. Lexington.
Clarke, Richard Bate ..................................................Chicago, Ill.
Clugston, William George. ..................................................Lexington.
Cole, Charles ..................................................Pittsburg.
D'Anna, Hugh Severio..................................................Lexington.
Donahue, James Franklin..................................................Lexington.
Downing, Virgil Leonard..................................................Lexington.
Eastin, Eckford Preston.................................................. Lexington.
Eastin, Eugene Augustine ..................................................Lexington.
Eversole, William Pearl..................................................Hyden.
Ferguson, Lillian Terry..................................................LeCentre.
Ferguson, Ruth ..................................................Guthrie.
Fleming, Jackson James .................................................. Birdsville.
Francis. Louis Paul. .................................................. Red Ash.
Goodwin, George Early.................................................. Lexington.
Harn, Walter Abraham .................................................. Flemingsburg.
Hodges, Grover Cleveland..................................................Pineville.
Hood, David Campbell.................................................. Jersey City, N. J.
Howell, Don Carlos .................................................. Austerlitz.
Huston, Edward Clifford..................................................Lexington.
Jones, Martha ..................................................Manchester.
Kinkead, Shelby.................................................. Lexington.
Lake, Oscar Noel .................................................. Lexington.
Lewis, William Henry ..................................................Hyden.
Lisle, Rufus ..................................................Louisville.
Locke, Isaac Newton..................................................Frankfort.
McDyer, William Lewis..................................................Catlettsburg.
McMillan, Robert Raymond ..................................................Paris.
McNeil, John Charles. ..................................................Pittsburg.
Marshall, Sarah Rossetter..................................................Lexington.
Martin, Allen..................................................Lexington.
Martin, Virginia Pearl..................................................Lexington.
Moffett, Cecil James..................................................Cattlettsburg.
Muir, Chester Stewart..................................................Lexington.
Nunnelley, Charles Middleton..................................................Greendale.
Nuunelley, Samuel Phillip..................................................Lexington.
O'Neill, Martin Pearce.................................................. Lexington.

| | |
|---|---|
| Pendergrass, George Washington | Beattyville. |
| Pittman, Arthur Davy | Fulton. |
| Pittman, Ernest Edgar | Fulton. |
| Price, William Preston | Nicholasville. |
| Sayre, James | Lexington. |
| Scherffius, Cleveland Hendricks | Lynville. |
| Shannon, William James | Lexington. |
| Sharp, Ella Bell | Lexington. |
| Short, Thompson Bailey | Butte, Mont. |
| Swope, William Morgan | Lexington. |
| Talbutt, Allene | Lexington. |
| Thomson, Lucy Wheeler | Lexington. |
| Wallace, William Abithal | Cerulean. |
| Webb, James | Pittsburg. |
| Webb, Richard Spurr | Lexington. |
| Wheeler, Arthur Maguire | Beattyville. |
| Wickliffe, Edwin Nelson, Jr | Lexington. |
| Willmott, Curtis Simeon | Lexington. |
| Wilson, Homer | Lexington. |
| Yates, John McChord | Kingston. |
| Young, William Hewitt | Livermore. |

### SECOND YEAR STUDENTS.

| | |
|---|---|
| Alves, Thomas Davis | Henderson. |
| Atkins, Robert Ryland | Lexington. |
| Barker, Richard McLean | Keysburg. |
| Barnes, Herbert Caldwell | Ft. Thomas. |
| Blain, James Hart | Williamstown. |
| Bodkin, Jesse Thomas | Bardwell. |
| Bowman, Charles Francis | Lexington. |
| Brown, Robert Harold | Warsaw. |
| Cox, William Floyd | Harlan C. H. |
| Cram, Royalston Haywood | Morgan. |
| Duncan, James William, Jr | Burlington. |
| Dunn, Thomas English | Marcellus. |
| Erdman, William Kenney | Lexington. |
| Estill, Daniel Scheffer | Lexington. |
| Finley, Joseph Buford | Georgetown. |
| Glass, Rhoda Virginia | Lexington. |
| Greathouse, Joseph Felix | Versailles. |
| Harrison, Erbie Lee | Glasgow. |
| Harrison, Thomas Whitney | Lexington. |
| Hart, George Denny | Cleveland, |
| Hill, Hubert McDonald | Lenoxburg. |
| Hudson, Halcomb | Lexington. |
| Hughes, James Melvin | Lexington. |

| | |
|---|---|
| Jacobs, Silas | Brooksville. |
| Johnson, Walker Edward | Waverly. |
| Lary, Benjamin Curtis | Clintonville. |
| Miller, Cyril | Golden Pond. |
| Miller, Humphrey | New Hope. |
| Milligan, Vincent Bartlett | Lexington. |
| Mills, Grover Cleveland | Kenton. |
| Mitchell, Joseph Gay | Paris. |
| Mosby, William Eugene | Bardwell. |
| Norton, James William | Carlisle |
| O'Day, Thomas Michael Joseph | Lexington |
| Parrish, Harvey Douglas | Richmond. |
| Pryse, John Stanley | Beattyville. |
| Reid, Eleanora | Edmonton. |
| Riggs, Schulty | Calhoun. |
| Slade, Theodore | Lexington. |
| Smith, Guy Warren | Muir. |
| Smith, Hal Walker | Henderson. |
| Snyder, Milton Kirkwood | Lexington. |
| Staples, Frederick William | Lexington |
| Taylor, Carroll Gholson | Lexington. |
| Tuttle, James Newton | Spears. |
| Vaughn, Esther Rose | Shelbyville. |
| Wall, Frank Pearce | Cayce. |
| Wallis, Nell Virginia | Lexington. |
| Webb, Edgar Hedger | Sadieville. |
| Winston, Algernon Sidney, Jr. | Sturgis. |

## STUDENTS OF THE SUMMER SCHOOLS.

### I. IN THE NORMAL SCHOOL

| | | |
|---|---|---|
| Adams, Meda | Covington | Kenton. |
| Alcorn, Nora | Greenwood | Pulaski. |
| Baird, Lewis | Sadieville | Harrison. |
| Ball, Mrs. Anna Frazee | Maysville | Mason. |
| Bartley, Patty | Hopkinsville | Christian. |
| Behr, Sophia | Danville | Boyle. |
| Bowlds, Angilene | Heath | McCracken. |
| Braden, Emily | Hopkinsville | Christian. |
| Brasher, Lillian | Hopkinsville | Christian. |
| Bryson, Flora | Stanford | Lincoln. |
| Crabbe, Mary | Eminence | Henry. |
| Damon, Myrtle | Pleasant Valley | Nicholas. |
| Davis, Mrs. M. C. | Dexter | Calloway. |
| Garman, Fred | Lexington | Fayette. |
| Gibson, Florida | Yarnallton | Fayette. |

| | | |
|---|---|---|
| Hannah, Ethel | Cynthiana | Harrison. |
| Hoskins, Mary | Hoskinston | Leslie. |
| Kirk, Thedore Tilton | Owensbora | Daviess. |
| Lockhart, Reba | Ft. Thomas | Campbell. |
| McWhorter, Sallie | Crab Orchard | Lincoln. |
| Metcalfe, Margaret | Covington | Kenton. |
| Mitchell, Mrs. T. F. | Nicholasville | Jessamine. |
| Moore, Blanche | Paducah | McCracken |
| Moore, Alice | Lexington | Fayette. |
| Moxley, Kate | Mt. Sterling | Montgomery. |
| Page, Jennie | Lexington | Fayette. |
| Phillips, Mrs. H. D | Stanford | Lincoln. |
| Reeves, J. L | LaGrange | Oldham. |
| Rich, Rena | Covington | Kenton. |
| Riedel, Gus | Holt | Breckinridge. |
| Scott, Frank Powell | Greenville | Muhlenberg. |
| Silcox, Maude | Harrodsburg | Mercer. |
| Thomas, John | Winchester | Clark. |
| Wilkie, Margaret Donald | Lexington | Fayette. |
| Yancey, Manie | Mayslick | Mason. |

### II. IN MECHANIC ARTS.

| | |
|---|---|
| Barrow, Asa Carrington | Carrollton. |
| Brewer, Franklin G | Eminence. |
| Edwards, Kenneth Scott | Ludlow. |
| Horine, Ernest England | Nicholasville. |
| Kesheimer, Peter F | Lexington. |
| Muncy, Victor Emanuel | Cincinnati. |
| Oblinger, Leron Ivan | Perrysburg, O. |
| Pruyne, Watson Elmore | Baraboo, Wis. |
| Raney, Murray. | Carrollton. |
| Sayers, Warner Paul | Erlanger. |
| Smith, Alfred Ernest | Guston. |
| Trice, John Buckner | Hopkinsville. |
| Welsh, Samuel Payton | Nicholasville. |

### III. IN PHYSICS.

| | |
|---|---|
| Barker, M. S. | Louisville. |
| Humphrey, R. A | Lexington. |
| McNamara, W. J | Lexington. |
| Prentiss, G. D | Lexington. |
| Veal, G. R | Sedalia. |
| Thomas, J. E | Adelaide, Aus. |
| Wilson, J. H | College Hill. |

### IV. IN CHEMISTRY

| | |
|---|---|
| Bryson, Flora. | Stanford. |
| Luten, Drew W | Cayce. |
| McClellan, Mary C | Lexington. |

### V. IN LIBERAL ARTS.

| | |
|---|---|
| Alexander, Josie | Paris. |
| Arnspiger, Richard | Lexington. |
| Baker, Leslie William | Adelaide, Aus. |
| Barker, Maxwell Sharp | Louisville. |
| Becker, Theodore Henry | Louisville. |
| Bennett, Clarence Smason | Narrows. |
| Bennett, Edgar | Irvington. |
| Blumenthal, Philip | Lexington. |
| Bogard, Frank | Golden Pond. |
| Bowden, Aberdeen Orlando | Sedalia. |
| Brewer, Franklin G | Eminence. |
| Bruner, Jacob Franklin | Whitesville. |
| Cabrera, Peter Rafael | Managua, Nic. |
| Chappell, Alvin Elwood | Louisville. |
| Clay, Roby Wornall | Lexington. |
| Coleman, Samuel Boin | Elkton. |
| Coons, William Lester | Lexington. |
| Crabb, Mary Belle | Eminence. |
| Creekmore, Ross Addison | Lexington. |
| Crawley, William Abraham | Lexington. |
| Dean, Willis Johnson | Owensboro. |
| Dunn, Thomas English | Marcellus. |
| Elam, Arthur Matthew | Ashland. |
| Fish, Clarence Beauchamp | Lexington. |
| Garman, Fred | Lexington. |
| Gillis, Ezra L. | Minerva. |
| Hall, George Whitfield | Lexington. |
| Hall, James Flannigan | Lexington. |
| Hargett, Anderson J | Augusta |
| Horine, Ernest England | Nicholasville. |
| Howard, Guylie Benton | Rockvale. |
| Humphrey, Robert Andrew | Lexington. |
| Johns, Charles Ashley | Lexington. |
| Kaufman, Sara Rachel | Lexington. |
| Kingsbury, Horace Edmond John | Sydney, Aus. |
| Lewis, Alexander Thornton | Frankfort. |
| Mahan, Charles Alfred | Lancaster. |
| Mahoney, Elizabeth | Lexington. |
| Martin, Grace Lee | Lexington. |
| Mastin, James Edward | Faywood. |
| Mathews, Dowdy Ray | Hazel Hurst, Ga. |
| McAlister, George Matthew | Lexington. |
| McCallum, Donald Campbell | Victoria, Aus. |
| McCallum, William Cecil | Victoria, Aus. |

McDowell, William Cochran........Lexington.
McHargue, James Spencer........Boreing.
Morton, Stella Belle........Lexington.
Newman, James Cleveland........Lexington,
Prentiss, George Derwood........Lexington.
Rector, Alley........Nowata, I. T.
Robinson, Benjaman Franklin........Lexington.
Sanders, Hugh Berkley........Kirkwood
Scherffius, Frederick Fanon........Lynnville.
Scrugham, Mary........Lexington.
Sharp Mary........Lexington.
Shemwell, Henry Allen........Birdsville.
Spencer, Gayle........Lexington.
Speyer, Harry Aaron........Kansas City, Mo.
Stackhouse, William Owsley........Lexington.
Staples, Frederick William........Lexington.
Thomas, James Edward........Adelaide, Aus.
Wallace, Daniel Frank........Lexington.
Wallis, Anna........Lexington.
Wells, Emery........Lexington.
Wilson, James Hardin........College Hill.
Wilson, Benjamin Dunbar........Lexington.
Worthiugton, Elmer Francis........Morgan
Yankey, Andrew George........Springfield.
Yates, Howard Clifford........Covington.
Wickersham John Thomas........Lebanon Junc.

## SUMMARY.

| Collegiate Students. | Scien-tific | Class-ical. | Civ. Eng. | Mech. Eng. | Min. Eng. | Nor. mal. | Agri. cult. | Class. Totals. |
|---|---|---|---|---|---|---|---|---|
| Post Graduates........ | 2 | 1 | 1 | 22 | 1 | | 1 | 28 |
| Seniors........ | 9 | 13 | 11 | 30 | | 1 | 3 | 67 |
| Juniors........ | 8 | 21 | 23 | 20 | | 2 | 5 | 79 |
| Sophomores........ | 15 | 25 | 24 | 53 | 5 | 2 | 2 | 126 |
| Freshmen........ | 15 | 27 | 29 | 50 | 3 | 1 | 12 | 137 |
| Department Totals........ | 49 | 87 | 88 | 175 | 9 | 6 | 23 | 437 |

| | |
|---|---|
| Collegiate students........ | 437 |
| Students not classified........ | 4 |
| Normal students........ | 130 |
| Students of the Academy........ | 114 |
| Students of the Summer Schools........ | 128 |
| Whole number........ | 813 |

The number for 1905-1906 is greater by 81 than that of any former session.

# REGULATIONS.

### PUBLIC EXERCISES.

All exercises assigned for commencement or any other public occasion must be submitted to the President for approval at least one week before the time for the performance; and, if any student shall deliver an address, or part of an address, which has not been approved by the President, his diploma and his degree, if any has been awarded, may be withheld.

### TRAVELING EXPENSES OF STUDENTS.

By the terms of the recent legislation upon the Agricultural and Mechanical College of Kentucky, a county appointee is entitled to have his traveling expenses from his home to the College and return paid by the College on the following conditions:

1st. He must be appointed according to law, a copy of which is in the hands of each County Superintendent of Schools.

2d. He must travel from home to the College by the shortest, least expensive, and the most expeditious route, and take receipts for all necessary expenses of travel, depositing the same, upon arrival, with the President of the College.

3d. He must present himself for matriculation within one week after the beginning of the fall term of the collegiate year.

4th. He must bring a certificate of good moral character, signed by two or more well-known and responsible citizens of his county.

5th. He must pass creditably the entrance examination required for admission.

6th. He must remain a student of the College for ten consecutive months, or one collegiate year.

7th. He must maintain during the collegiate year a good moral character, and such class standing as will enable him to pass all final examinations.

8th. He must sign a declaration at the end of the collegiate year that he has not knowingly violated any of the regulations involving his moral character as a student, nor been a party directly or indirectly to the injury of property on the College grounds or in the College buildings.

If at the end of the collegiate year the foregoing conditions have been complied with, the President of the College shall certify the fact to the Treasurer of the College, who, upon said certificates as vouchers shall pay to the appointee the amount shown by the receipts aforesaid, and in addition thereto the sum for discharging the necessary expenses to be incurred in returning home.

## COLLEGE EXPENSES.

The necessary expenses of a student while at College need not exceed the following estimates. As a rule the less pocket-money allowed by parents or guardians, the better it is for the pupil. When supplies of pocket-money are kept short the opportunity for contracting vicious habits is correspondingly diminished. Students should not be allowed by their parents to create any debts. All money intended for the use of the students should be deposited with the Commandant.

For a county appointee, occupying a room in the dormitory, the necessary expenses are as follows:

| | |
|---|---|
| Tuition free | $00 00 |
| Matriculation free | 00 00 |
| Gymnasium free | 00 00 |
| Room rent free | 00 00 |
| Use of furniture | 2 50 |
| Washing, about | 10 00 |
| Uniform | 16 00 |
| Books, about | 10 00 |
| Total | $ 38 50 |

Board in clubs, $2 per week; in families, $3 to $4. For students not county appointees the necessary expenses are:

| | |
|---|---|
| Tuition for Mechanical, Civil, Electrical and Mining Engineering | $40 00 |
| Tuition for Classical, Scientific and Normal School Courses, | 25 00 |
| Matriculation fee, | 5 00 |
| Gymnasium fee, | 5 00 |
| For each laboratory, fee | 5 00 |
| Washing, about | 10 00 |
| Room and furniture | 20 00 |
| Uniform | 16 00 |
| Books, about | 10 00 |

Board in clubs, about $2.00 per week; in families, $3 to $4. All who occupy rooms in dormitories make a deposit of $5 to cover damage done during their occupancy. This is refunded at the close of the year, less the amount of damage assessed against the depositor.

Board and lodging are provided in Patterson Hall for young women, at $3 per week, they furnishing their own bed clothes and towels. This handsome three-story building, a fourth of a mile from the college, can accommodate 125 students.

## DIPLOMA.

By order of the Board of Trustees a fee of $5 will hereafter be charged for each diploma issued by the College.

### FREE TUITION, BENEFICIARIES.

Each Legislative Representative District is allowed to send, on competitive examination, *one properly prepared student* each year to this college, free of charge of tuition.

[A Statement for the guidance of County Superintendents : 1. If the county forms one or more than one Legislative Representative District, each district is entitled to keep four students in the College and four in the Normal School free of tuition.

2. If a Legislative Representative District embraces more than one county, each county is entitled to keep four students in the College and four in the Normal School free of tuition.]

Beneficiaries are appointed on competitive examination. A Board of Examiners is appointed for this purpose by the County Superintendent of common schools. The results of examination are reported to the Superintendent, who from the data thus furnished selects the appointee. Examinations are made upon subjects transmitted to the County Superintendent by the Faculty of the College. One appointment is made each year.

Appointments aɹe made by the County Superintendent between the first day of June and the first day of August of each year. Appointments when made should be immediately certified to the President of the College.

Appointments for the College proper, viz., the Agricultural, Mechanical Engineering, Civil Engineering, Scientific, Classical, and Normal Collegiate courses, are all valid for the term of years necessary to complete the course of study in which the appointee matriculates. This includes the course in the Academy.

It follows from the above that a county which makes its appointments regularly according to law will have for the session of 1901-2 one appointment to the College; for the session of 1902-3 two appointees; for the session of 1903-4 three appointees; for the session of 1904-5 four appointees. When the first appointee completes his course, or ceases to be a student, another appointee takes his place. When the quota of a county is full it will have at least four appointees in regular attendance.

Each appointee is required to pass an entrace examination at the College on the subjects comprisiug all that is embraced in Arithmetic, English Grammar, Geography, and United States History in the common school course.

All persons are eligible between the ages of fourteen and twenty-four who have completed the common school course—preference being given to young men or women whose means are limited, to aid whom this provision is especially intended.

Any person not an appointee may enter the college on payment of fees, but no one who is not an appointee receives traveling expenses or is exempt from the payment of fees.

### APPOINTEES TO THE NORMAL COURSE.

The law makes provision for the appointment of four teachers, or persons preparing to teach, each year. Appointments may be made and certified to the President of the College between the first day of July and the thirty-first day of December of each year.

Appointments to the Normal School are tenable for one year.

Applicants for appointments are examined by a Board of Examiners appointed by the County Superintendent on subjects transmitted by the Faculty, viz.: upon Arithmetic, English Grammar, United States History, and Geography. They should not be less than seventeen years of age. They are also required to pass an entrance examination at the College. They must likewise bring certificates of good moral character.

Matriculates of the Normal Department will be required to sign an obligation to teach in the common schools of Kentucky for as many months as they receive free tuition.

### SPECIAL COURSES OF STUDY.

Special courses of study are not provided for in the Academy, the Normal School, or the College proper; provided, however, that persons who have passed the age of twenty-four years, the limit below which appointments as beneficiaries under the law must be made, may under certain conditions be allowed to pursue selected studies without matriculating in one of the regular courses of the College.

### CHANGE OF CLASSIFICATION.

No student shall be allowed to change his or her course of study from one department of the College to another, until he or she shall have completed and passed a satisfactory examination on each subject hitherto studied in the department of which he or she is a matriculate; and no change of courses shall be permitted during the current year.

### ACCREDITED SCHOOLS.

Schools, whether public or private, may be accredited in accordance with a resolution of the Faculty providing that graduates of these may be exempted from entrance examinations to the College when the heads of these schools have complied with certain conditions.

Further, the Board of Trustees have made an annual award of a free scholarship to the pupil in each accredited school who has completed the certified course with the highest class standing. This scholarship entitles the recipient to free tuition. If, in addition, the holder of a scholarship obtains the "County Appointment," he is entitled to free room in one of the dormitories and free traveling expenses.

A revised list of these schools is appended :

## PUBLIC HIGH SCHOOLS.

| *Schools.* | *Superintendents.* |
|---|---|
| Ashland | J. C. Crabbe. |
| Augusta | J. R. Sterrett. |
| Bellevue | J. Maddox. |
| Carlisle | W. F. Ramey. |
| Carrollton | J. W. Taylor. |
| Catlettsburg | M. P. Helm. |
| Corydon | B. Hamlet. |
| Covington | C. Merry. |
| Cynthiana | C. A. Leonard. |
| Dayton | |
| Dixon | S. G. Boyd. |
| Elizabethtown | E. E. Olcott. |
| Elkton | H. L. Trimble. |
| Eminence | J. C. Gordon. |
| Falmouth | E. B. Buffington. |
| Finchville | B. A. Logan. |
| Flemingsburg | T. A. Luman. |
| Frankfort | H. Crockett. |
| Fulton | J. C. Cheek. |
| Greenup | G. W. Chapman. |
| Harrodsburg | C. W. Bell. |
| Henderson | L. McCartney. |
| Hickman | A. R. Boone. |
| Hopkinsville | J. B. Taylor. |
| Horse Cave | M. E. Wood. |
| Kenilworth, Ill | E. Manlay. |
| Lancaster | J. E. Mannix. |
| Lawrenceburg | H. V. Bell. |
| Lexington | M. A. Cassidy. |
| Louisville | E. H. Marks. |
| Female H. S. | W. H. Bartholomew, Pr. |
| Male H. S. | R. P. Halleck, Pr. |
| Manual Tr. H. S., | E. P. Chapin, Pr. |
| Ludlow | F. Appel. |
| Marion | C. Evans. |
| Mayslick | W. M. Chandler. |
| Maysville | O. S. Clinger. |
| Middlesboro | M. O. Winfrey. |
| Midway | T. Hendricks. |
| Morganfield | A. C. Burton. |
| Mt. Sterling | H. M. Gunn. |
| Newport | John Burk. |
| Nicholasville | R. G. Lowery. |
| Orange, N. J. | W. M. Swingle. |
| Owensboro | McH. Rhoads. |
| Owenton | W. E. Williams. |
| Paducah | C. M. Lieb. |
| Paris | J. A. Sharon. |
| Pembroke | C. E. Dudley. |
| Richmond | W. H. Brock. |
| Somerset | J. P. W. Brouse, |
| Versailles | W. F. Pate. |
| West Point | Miss R. Thurman. |
| Williamstown | W. G. Welborn. |
| Winchester | R. M. Shipp. |

## PRIVATE HIGH SCHOOLS.

Auburn, Auburn Seminary, C. B. Bates, Principal.
Bagdad, Shelby Institute, Misses Scarce, Principals.
Bardstown, Nelson Normal High School, E. H. Crawford, Principal.
Campbellsburg High School, J. W. Pearcy, Principal.
Covington Rugby School, K. T. Morris, Superintendent.
Cynthiana Classical School, Mr. Selin, Principal.
Danville, Va. Military Institute, Campbell and Snider, Principals.
Elkton, Vanderbilt Training School, J. H. Harrison, Principal.
Fulton, Carr Institute, T. N. Wells, Principal.
Harrodsburg Academy, W. W. Ensminger, Principal.
Hartford College and Business Institute, L. N. Grey, President.
Hazel Green Academy, W. H. Cord, President.
Hodgensville, Kenyon College, J. C. Pirtle, President.
Hopkinsville, South Kentucky College, A. C. Kuykendall, President.
Jetts Academy, Mrs. Mary Crutcher, Principal.
Knoxville, (Tenn.), Baker-Himel School, N. H. Pittman, Principal.
Leitchfield, High School and Business Institute, W. C. Losey, Principal.
Lexington, Private School, Miss Ella Williams, Principal.
Lexington, Private School, Miss Lucy S. Collier, Principal.
Louisyille, St. Xavier's College, Bro. James, Principal.
Louisville, University School, W. H. Tharp, Head Master.
Louisville, School for Boys, Davenport and Patterson, Principals.

Louisville, Semple College Institute, Miss Anna J, Hamilton, Principal.
Maysville, Private School, Miss F. I. Gordon, Principal.
Middleburg, Normal College, J. S. Lawhorn, Principal.
Millersburg, Military Institute, C. M. Best, Principal.
Mt. Sterling, Goodwin's High School, M. J. Goodwin, Principal.
Newport, Notre Dame Academy, Mother Maria, Principal.
Nicholasville, School for Boys, T. B. Threlkeld, Principal.
Richmond, Madison Institute,————Principal.
Russell Springs Academy, U. G. Hatfield, Principal.
Stanford, Male and Female Academy, O. B. Fallis, Principal.
Versailles, Training School, W. O. Vaught, Principal.
Versailles, Margaret Hall. Miss Hogeboom, Principal.
Williamsburg, Institute, Dr. E. E. Ward, President.
Williamsburg, Academy, Prof. Hill, Principal.

Upon application, printed forms will be sent to the heads of schools who may desire to have them placed in the list of the accredited schools. These forms are to be filled out with an announcement of the courses of study and mailed to the Chairman of the Committee on Accredited Schools at the State College.

Only pupils from duly accredited schools will be admitted to the College without examination, and *they* must present a certificate from their superintendent or principal and it must bear the signature of the President of the State College.

Every pupil who completes an accredited course is entitled to a certificate attesting the fact, and heads of schools in the foregoing list will oblige the College Committee on Accredited Schools by sending promptly their recommendations for certificates and scholarships.

*German.*—After September 1, 1907, one year of German will be required for admission to the Freshman class of all courses in the State College. A second year will be added later.

## MANUAL LABOR.

The work necessary for carrying on the agricultural and horticultural operations of the College is done by the students, and is paid for at rates varying from six to ten cents per hour. Its design is two-fold : to put in practice the instruction received in the class-room, and to assist students who are in need of money. The experience of this College is that of Agricultural Colleges generally—that compensated labor is not remunerative to the College.

*The College assumes no obligation to furnish students an opportunity to labor for compensation.*

Students are paid monthly for the service rendered, and apply the money as they see proper.

*No student, however, should come to this College expecting to maintain himself exclusively by compensated labor. At least seventy-five dollars per annum, exclusive of his earnings while here, should be at the command of every student who wishes to avail himself of the advantages of the system of compensated labor.*

### CERTIFICATES OF CHARACTER.

All applicants for admission into any class of the College or Academy must bring satisfactory testimonials of good moral character.

### THE MONITRESS.

The young women who attend the College have assigned for their exclusive use a large and well-appointed study-room. Here, while they are not engaged in the class-rooms or in the chapel, they are under the constant and strict supervision of the Monitress, Mrs. Blackburn, who has long been connected with the College and is well qualified for her duties.

### ENLISTMENT OF CADETS.

By a resolution of the Faculty, approved by the Board of Trustees, no cadet of the State College is allowed to enlist in the State Guards.

### RULES OF CLASSIFICATION.

1. No student shall be considered as belonging to a given class, unless he takes at least three studies selected in that class or in a higher.
2. No student shall pass into a higher class while he has to make up studies required of him in the preceding year.
3. Students may be permitted, by the Deans of their courses and the Professors with whom they take their major studies, to register for studies not more than one year in advance of their classification

## CALENDAR.

### 1906.

| | |
|---|---|
| Summer Schools open | from June 11th to Aug. 17th. |
| Entrance Examinations begin | Monday, Sept. 10th. |
| First Term begins | Thursday, Sept. 13th, |
| Thanksgiving | Thursday, Nov 29th. |
| Board of Trustees meet | Tuesday, Dec. 11th. |
| Christmas Holidays begin | Friday, Dec. 21st. |

### 1907.

| | |
|---|---|
| Second Term begins | Wednesday, Jan 2d. |
| Second Term of Academy begins | Monday, Jan. 21st. |
| Washington's Birthday | Friday, Feb. 22nd. |
| Union Society Contest | Friday, Feb. 22nd. |
| Third Term begins | Monday, March 11th. |
| Patterson Society Contest | Tuesday, March 26th. |
| Final Examinations begin | Monday, May 27th. |
| Board of Trustees meet | Tuesday, June 4th. |
| Class Day | Wednesday, June 5th. |
| Alnmni Banquet | Wednesday, June 5th. |
| Commencement | Thursday, June 6th. |

# THE STATE COLLEGE SUMMER SCHOOLS.

## FOURTH SESSION.

## 1906.

These five schools, which offer more than thirty courses of instruction through text-books, lectures, and the best laboratories in the State, afford teachers, college students and those who are preparing for college, a rare opportunity for inexpensive study.

### I. THE SCHOOL OF TEACHERS,

PROEESSORS M. WHITE, NOE, PRYOR, PENCE AND WEBB.

The Fourth Session will open Monday, June 11th, and continue six weeks.

The work is specially designed to prepare teachers for examination for the County Certificate, the State Certificate, and the State Diploma. It embraces also Free-hand Drawing and Nature Study.

By act of the late General Assembly, teachers who attend this School four weeks or more are not required to attend any Teachers' Institute the same year. Certificates of attendance are issued.

A single fee of $6 is required at registration. No rebate is allowed for absence.

Women have elegant rooms in Patterson Hall *free* and board for $3 a week. Men have rooms in the College dormitories *free*. Board can be had near the College for $2 or $3 a week. All students furnish their towels and bedding and men their mattresses. Total expense for six weeks from $18 to $24, laundry and books not included.

For further information apply to—

MILFORD WHITE,
Lexington, Kentucky.

### II. THE SCHOOL OF PHYSICS

PROFESSOR PENCE.

*Courses Offered*—1. Theoretical Physics, embracing the Properties of Matter, Mechanics, Sound, Heat, Light, Electricity and Magnetism, with experiments, lectures and recitations one hour daily. Text-book, Gage's Elements of Physics. 2. In the Physical Laboratory, the work being that given in Gage's Physical Experiments, and requiring from three to five hours daily. Students in Course 1 may also take Course 2, and those in either course should have a good knowledge of Arithmetic and Elementary Algebra, and some knowledge of Plane Geometry and Plane Trigonometry. The work is designed to shorten or lighten the work in the College, and credit is given for it, Students properly prepared may undertake more advanced work corresponding to that of the Junior or the Senior class.

3. A course in X-ray work is offered to Physicians and others who may wish to operate X-ray machinery and do work in X-ray photography, with practice in photographing fractures, dislocations, necrosis, stone in the bladder or kidney, gall stones, bullets or other foreign bodies.

Time, three weeks; fee $25. Fee for Course 1, $10; for Course 2, $12; for both, $20.

The Department of Physics is supplied with all necessary apparatus, including a first-class X-ray outfit. Students have opportunity to learn somethiug of X-rays, radium and wireless telegraphy.

The courses will extend from June 18th to July 29th. Correspondence solicited.

## III. THE SCHOOL OF PHYSIOLOGY.

DR. PRYOR.

The Course in Physiology, consisting of lectures, demonstrations and laboratory exercises, is intended to illustrate the fundamental laws of physiology and the phenomena on which they are based. The subjects to be considered are: Muscle, its appearance, histology, chemical composition and physiology; Haemodynamics, the circulation of the blood and lymph; Normal Haematology, clinical examination of the blood and blood corpuscles; the anatomy and physiology of the eye and ear.

Credit is given in the College for work done in the school.

The course will begin June 11th and end July 10th. Fee, $10.

## IV. THE SCHOOL OF LIBERAL ARTS.

PROFESSORS DAVIS AND JONES.

The sessiou extends from June 11th to August 17th.

The purpose of this school is to help students—

1. Remove conditions from their work in the College.
2. Even up work neglected through irregular classification.
3. Shorten or lighten their work in the College.
4. Prepare for the entrance examination in September.
5. Review their studies in accredited schools.

The instruction embraces—

1. The College courses in Mathematics, Astronomy, English, Greek, Latin, French, German, Spanish, History, and Anglo-Saxon.

2. The Academy courses in all the subjects preparatory to either year of the Academy or the Freshman class of the College.

Last summer instructiou was given in all these subjects, and more than four-fifths of our students passed.

Students prepared for any college or university.

Fee for each subject, in advance, $7.50

For bulletin of information address—

J. MORTON DAVIS or T. T. JONES, Lexington, Ky.

### V. THE SCHOOL OF MECHANIC ARTS.

PROFESSORS ANDERSON AND FAIG.

Instruction will be given specially in Mechanical Drawing, Steam Engineering, Applied Electricity, Machine Design, Materials of Construction, Transmission of Force, and Shop Work.

The courses are designed for Machinists, Carpenters, Metal Workers, Engineers, Firemen, Superintendents of Electric Light Plants or of public buildings having power plants, artisans of all classes, and especially for young men who intend to take up engineering, or for high-school and other students who may wish to shorten or to lighten the work of the four years' course in college.

Students admitted without an examination.

The session begins June 11th and ends August 17th. Fee, $25.

For full information address the Registrar,

JOHN T. FAIG, Lexington, Ky.

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Summer schools, as auxiliaries of the universities and the larger colleges, have proved to be so serviceable and popular that provision for them, on a scale more and more ample, is made from year to year. At the great and wealthy Columbia University, of New York, for example, seventy-five professors and their assistants announce courses of study in as many different subjects for their present summer session. In the rush and hurry of American life and amid the insane pursuit of money, which engages so many of the American people, economy of time is becoming all the while more and more a vital matter, and the summer school is one of the indispensable devices for saving time. Many a dull or lazy student who has failed in his final examinations at College, may, by a few weeks of hard study in the Summer School, make good his deficiencies, go on with his class and avoid a year at College; many another student may, in the same way, ensure his admission to College in September; and still others may by anticipation greatly lighten the work of the over-loaded curriculum. Teachers especially, and others who cannot attend the College, find much compensation in the Summer School.

The earnest and able professors who take part in the Summer Session of the State College will be seconded in every way by the authorities in their efforts to make the Summer Schools still more profitable and successful.

# COLLEGE DIRECTORY.

| | Residence. | College Quarters. |
|---|---|---|
| Allen, Robert M | 609 S. Limestone | Experiment Station. |
| Anderson, F. Paul | 147 Kentucky Avenue | Mechanical Hall. |
| Averitt, Saxe D | 129 E. Maxwell | Experiment Station. |
| Blackburn, Mrs. Lucy B | 630 Central Avenue | 14, First Floor, College. |
| Brooks, John P | 231 N. Broadway | Second Floor, Mech. Hall. |
| Burtt, Wilson B | Patterson Hall | Gymnasium. |
| Curtis, Henry E | 116 E. Maxwell | Experiment Station. |
| Davis, J. Morton | 20 Park Place | 1. Basement, College. |
| Dean, Robert H | 222 Arlington Avenue | Weather Bureau, College. |
| Dicker, Joseph | 28 Virginia Avenue | Mechanical Hall. |
| Didlake, Miss Mary L | 481 E. Main | Experiment Station. |
| Faig, John T | 750 W. Main | Mechanical Hall. |
| Frazee, D. C | 401 W. Maxwell | 13, First Floor, College. |
| Garman, Harrison | 638 S. Limestone | Experiment Station. |
| Hooper, John J | 609 S. Limestone | First Floor, Science Hall. |
| Jones, Theodore T | 600 S. Rose | 20, Third Floor, College. |
| King, Miss Margaret I | 225 S. Limestone | 10, First Floor, College. |
| Kinkead, Miss Elizabeth | 243 W. Second | Chapel. |
| LaBach, James O | Y. M. C. A. Building | Experiment Station. |
| Liston, Miss Lillie | Patterson Hall | Experiment Station. |
| Mackenzie, A. St. Clair | Reed Hotel | 19, Second Floor, College. |
| Mathews, Clarence W | 660 S. Limestone | First Floor, Science Hall. |
| Miller, Arthur M | 609 S. Limestone | First Floor, Science Hall. |
| Milligan, Richard A | 492 S. Limestone | Mechanical Hall, rear. |
| Mustaine, W. W. H | 327 S. Limestone | Gymnasium, First Floor. |
| Neville, John H | 722 W. Main | 21, Third Floor, College. |
| Noe, James T. C | 211 W. Maxwell | 11, First Floor, College. |
| Norwood, Charles J | 339 Aylesford Place | Science Hall, Third Floor. |
| Paddison, George L | 609 S. Limestone | Chemical Hall. |
| Palmer, Dr. Chase | 455 Walnut | Chemical Hall. |
| Patterson, James K | President's House | 12, First Floor, College. |
| Patterson, Walter K | President's House | 17, Second Floor, College. |
| Pence, Merry Lewis | 108 Merino | 5, Basement, College. |
| Peter, Alfred M | 268 E. Maxwell | Experiment Station. |
| Pryor, Joseph W. | 408 W. Third | Science Hall, Second Floor. |
| Scherffius, William H | 149 Washington Avenue | Experiment Station. |
| Scovell, Melville A | College Farm | Experiment Station. |
| Shedd, Oliver M | 450 S. Broadway | Experiment Station. |
| Spillman, Asher G | 347 S. Mill | Second Floor, Science Hall. |
| Stout, Mrs. Florence Offutt | Versailles | Second Floor, Gymnasium. |
| Turner, Job D | 267 S. Limestone | Experiment Station. |
| Wallis, Mrs. Caroline E | | Patterson Hall. |
| Warren, Richard E | 219 S. Limestone | 22, Third Floor, College. |
| Wernicke, Paul | 609 S. Limestone | 18, Second Floor, College. |
| White, James G | 158 E. Maxwell | 15, First Floor, College. |
| White, Miss Martha R | 158 E. Maxwell | 1, Basement, College. |
| White, Milford | 119 Washington Avenue | 9, First Floor, College. |
| Wilson, Alexander M | 609 S. Limestone | Mechanical Hall. |

# APPENDIX.

**Statistics of Higher Education in the United States for 1903-1904.**

(From the report of the National Commissioner of Education).

| | |
|---|---|
| Number of Colleges, Universities and Schools of Technology | 501 |
| Number of their students (86,006 men; 32,023 women) | 118,029 |
| In classical courses | 52,131 |
| In other general culture courses | 13,009 |
| In general science | 9,640 |
| In commerce | 1,537 |
| In agriculture | 2,196 |
| In mechanical engineering | 6,894 |
| In civil engineering | 6,118 |
| In electricical engineeing | 4,389 |
| In chemical engineering | 694 |
| In mining engineering | 2,374 |
| In textile engineering | 95 |
| In sanitary engineering | 31 |
| In architecture | 542 |
| In household economy | 691 |
| Admitted to A. B. (5,902 men; 3,372 women) | 9,274 |
| Admitted to B. S. (3,238 men; 437 women) | 3,675 |
| Admitted to A. M. (1,010 men; 279 women) | 1,289 |
| Admitted to M. S. (143 men; 28 women) | 171 |
| Varieties of degrees conferred | 48 |

Number of pupils in secondary schools ........ 822,235

| | | | |
|---|---|---|---|
| In Latin | 369,329 | In chemistry | 52,347 |
| In Greek | 18,447 | In physical geography | 157,160 |
| In French | 82,418 | In geology | 20.626 |
| In German | 140,302 | In physiology | 166,229 |
| In algebra | 415,644 | In psychology | 15,083 |
| In geometry | 201,813 | In rhetoric | 333,028 |
| In trigonometry | 16,675 | In English literature | 354,125 |
| In astronomy | 14,205 | In history (not of U, S.) | 289,904 |
| In physics | 117,533 | In civics | 136,866 |

| | |
|---|---|
| In the classical courses | 46,990 |
| In scientific courses | 35,821 |

## AMOUNTS GIVEN BY STATES AND TERRITORIES TO LAND-GRANT COLLEGES AND UNIVERSITIES AS AID AND FOR ADDITIONAL EQUIPMENTS IN 1904.

(The assessments are from the World Almanac, the other figures from the U. S. Bureau of Education).

| | Assessed Wealth of State or Territory. | For Aid. | For Equipment. | | Assessed Wealth of State or Territory. | For Aid. | For Equipment. |
|---|---|---|---|---|---|---|---|
| Alabama | $ 344,224,221 | $ 29,821 | $ 20,415 | Montana | $ 209,912,340 | $ 28,000 | $ 30,000 |
| Arizona | 45,317,837 | 56,398 | 35.828 | Nebraska | 304,470,961 | 282,250 | 68,500 |
| Arkansas | 249,779,108 | 81,371 | 36,000 | Nevada | 28,391,252 | 15,207 | 7,123 |
| California | 1,550,511,671 | 567,746 | 57,843 | New Hampshire | 225,082,628 | 17,500 | 11,242 |
| Colorado | 465,000,000 | 75,410 | 53,274 | New Mexico | 42,617,848 | 13,456 | 10,010 |
| Florida | 96,686,954 | 46,863 | 24,776 | North Carolina | 433,687,809 | 27,500 | 8,675 |
| Idaho | 75,281,087 | 21,500 | 28,546 | North Dakota | 117,204,485 | 29,178 | 3,243 |
| Illinois | 1,053,050,979 | 626,200 | 161,195 | Ohio | 2,113,806,168 | 353,497 | 163,252 |
| Indiana | 1,360,445,139 | 147,701 | 103,400 | Oklahoma | | 36,595 | 9,714 |
| Iowa | 559,272,799 | 221,080 | 123,716 | Oregon | 188,058,281 | 25,115 | 10,566 |
| Kansas | 378,335,401 | 152,202 | 83,515 | South Carolina | 210,331,854 | 132,537 | 47,927 |
| Kentucky | 644,489,090 | 44,830 | 53,131 | South Dakota | 173,206,733 | 75,000 | 49,670 |
| Louisiana | 301,215,222 | 33,825 | 34,809 | Texas | 1,139,022,730 | 210,500 | 64,700 |
| Maine | 352,228,897 | 55,000 | 41,800 | Utah (½ val.) | 49,663,004 | 66,731 | 192,348 |
| Maryland | 643,812,408 | 61,000 | 52,750 | Virginia | 423,842,680 | 112,500 | 102,500 |
| Michlgan | 1,529,969,350 | 100,000 | | Washington | 328,542,525 | 67,500 | 20,179 |
| Minnesota | 871,270,822 | 350,353 | 169,460 | West Virginia | 275,275,935 | 146,927 | 29,432 |
| Mississippi | 222,847,525 | 154,458 | 49,729 | Wisconsin | 1,384,580,755 | 471,500 | 71,897 |
| Missouri | 1,377,997,201 | 397,544 | 11,350 | Wyoming | 48,826,940 | 26,266 | 25,845 |

Remarkable showings: Arizona, $92,226; Arkansas, $117,271; California, $625,589; Colorado, $128,684; Florida, $71,639; Illinois, $787,395; Iowa, $344,796; Minnesota, $519,813; Nebraska, $350,750; South Carolina, $180,364; Utah, $259,579; Virginia, $215,000; West Virginia, $176,359; Wisconsin, $543,397 (in 1905, $558,009). Most remarkable of all: Utah, with less than 300,000 inhabitants and an assessment of $139,485,487 in 1905, gave to her Agricultural College $140,500, and to her University $261,000, each for two years.

## III. GERMANY AND EDUCATION.

The power of education has never been shown so impressively as in the sudden and stupendous development of the limited resources of the German Empire since 1871.

*I. Natural Resources.*—1. An area of 208,788 square miles (Texas has 265,780; that is, Texas is larger than Iowa (56,025) and the German Empire together.) 2. A good climate, but with little variety. 3. A soil mostly poor (65 per cent. of it cultivated.) 4. No great mineral wealth except in coal, lignite, iron, common and potassic salt, with much zinc and considerable copper, lead and silver. 5. Only 300 miles of ocean coast with 3 harbors; 830 miles of Baltic coast with 6 harbors. 6. Nine navigable river systems, none of them being large except the Elbe, which is less than the Ohio, and the Rhine, which alone has always water enough for a good navigable river.

*II. Added Resources*—1. About 59,000,000 of a vigorous, industrious, knowledge-seeking and knowledge-applying race (280 to the square mile). 2. Thirty two cities of more than 100,000 inhabitants each, and fifteen of more than 200,000. 3. The largest and finest army in the world (606,000 men in peace, 3,000,000 in war). 4. A navy third in size and possibly second in efficiency. 5. A merchant marine (in 1901) of 3,883 vessels in the ocean service, and 22,564 in the coasting and inland trade, some of Germany's 1390 ocean liners being among the biggest, fastest, finest ships that cross the seas, and home-built. 6. A commerce second to Great Britian's alone (exports in 1901, $1,094,663,610; imports, $1,372,413,910). 7. The best consular service and the best commercial schools to prepare young men in languages and otherwise for foreign trade. 8. Manufactures "unparalleled among the nations, and mostly due to advanced technical education", and embracing, in forms of the highest excellence, nearly all the products needed for the use of man. 9. In 1900, 36,270 miles of railways, and 1519 miles of canals. 10. Agriculture and stock-breeding, to which however much less attention is devoted since (in 1871) the Germans turned to commerce, manufactures and ship-building. 11. Forestry. The forests covering a fourth of the surface, and being under State protection and scientific culture, yield a large annual revenue, the forests and public domain of Prussia yielding a yearly average of $20,000,000. 12. The production of books, books on nearly every imaginable subject and in *many languages, Germany producing in 1904, 28,378 works (France, 12,139; Great Britain, 8,334; and the United States, 8,291). 13. The crowning glory of Germany, the chief source of her growth and power, her schools of all grades, conceded by intelligent educators everywhere to be the best in the world: 59,300 common schools, or about 1.000 to every million of people, with compulsory attendance of pupils, and reducing the average illiteracy of the Empire to less than 1/4 of one per cent. (Brandenburg, a part of Prussia, having no illiterates and the Kingdom of Wuertemberg none); numerous schools of all grades for girls and young women; (in 1901) 1108 secondary schools, (corresponding to American colleges,) in which, as nowhere else, the foundation is laid for classical knowledge and culture and for a knowledge of all the branches of science; 21 universities of world-wide fame, attracting †students from all the lands of civilized men (more than 5500 foreign students in 1902), universities in which knowiedge is diffused by teaching and increased by research; 457 normal schools; hundreds of agricultural and forestry schools; 9 great polytechnic schools of the highest order, attended by thousands of foreign students (by more than 4,000 in 1902); and finally, as the consum-

mation of German effort for the application and the extension of science, the Imperial Testing Office, in new and magniflicent buildings near Berlin, with many laboratories and experts, for testing, at small expense to manufacturers and inventors, materials, machinery and processes in all the branches of industrial art. In that Testing Office German thoroughness has provided all facilities and appliances for every kind of scientific experimentation and research.—Amazing results for a small country of meager resources.—EDUCATION!

"To-day in industrial production Germany stands in the front rank of the nations, and in the applications of science she clearly leads them all."—H. S. Pritchett, President of the Massachusetts Institute of Technology.

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* At Brockhaus's, Leipzig, in 1868, I was told that they printed books in 33 languages.

† The University of Berlin had, in 1904, 13,782 students.

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## IV. KENTUCKY AND EDUCATION.

In 1900, Kentucky had 12.8 illiterates in each 1000 white persons of 10 years or more, a percentage greater than that of any other State except Tennessee, the Carolinas, Alabama and Louisiana, and 18 times as great as that of the German Empire. But our inferiority to Germany in education is immeasurably greater than this difference of mere illiteracy implies, for even the best educated portions of the American people have relatively few men of great learning or knowledge, while the Germans have many, far more in fact than any other people ever had.

" De l'audace, et encore de l'audace, et toujours de l'audace !" cried Danton at a crisis in the French Revolution. "Schools, and again schools, and always schools" should, in *our* crisis, be the incessant demand of every Kentuckian, man or woman, who desires the supreme welfare of the State; who is ashamed that Kentuckv continues to be disgraced by ignorance, and by its concomitants, poverty. lawlessness, vice and crime; and who would have the State to stand in knowledge not, as now, sixth from the bottom of the roll of States, but near the top, as the peer of the proudest and most enlightened of her sister commonwealths.

Kentucky needs 1500 first-rate common schools, 200 first-rate high schools, and, to crown all, a university as good as Virginia's or Missouri's, as good as Michigan's or Wisconsin's, and she cannot have the lowest of these classes of schools without both the others, for the State that neglects higher education necessarily makes poor provision for lower. And these sorely needed schools will be the result, not of occasional and spasmodic effort but of slow and steady evolution. All the conferences and conventions, all the speeches and resolutions from now till the crack of doom will avail little unless they are followed up with persistent appeals to the people, by tongue and pen, county by county, and man by man, till Kentuckians learn the lesson taught by Germans, and that lesson is that the path to true national grandeur lies through great knowledge faithfully applied, and moreover that the income from education vastly exceeds the outlay for it. N.

# CATALOGUE

OF THE

OFFICERS, STUDIES, AND STUDENTS

OF THE

# STATE COLLEGE OF KENTUCKY,

LEXINGTON,

WITH A PART OF THE REGULATIONS,

FOR THE

SESSION ENDING JUNE 6, 1907.

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LEXINGTON:
PRESS OF JAMES M. BYRNES,
1907.

# PATTERSON HALL.

This Hall, a home for the young women of the College, is a large and handsome three-story brick structure of a hundred and fifty feet front, built on a fine site of about three acres fronting two hundred and ten feet on South Limestone Street and a line of the City electric railway. Within a quarter of a mile of the College on the South, a half mile of the Court House, the Phoenix Hotel and the Post-office on the North, and distant not more than ten minutes by railway from the principal churches of the City, Patterson Hall is, for all purposes, admirably located. The building is heated by steam, lighted by electricity, and supplied with hydrant and cistern water. It has a front veranda of 14 by 68 feet, wide halls, a closet in every bed room, and thirteen bath rooms. With walks, drives and numerous old forest trees, the spacious front lawn, one of the most beautiful in Lexington, is an inviting place for exercise, for which ample provision has also been made in the rear lawn, with tennis court and croquet grounds, as well as in the large gymnasium.

Sixty-eight commodius and well-furnished rooms afford accommodation for a hundred and twenty-two persons, for whom the careful and judicious matron will provide lodging free, and excellent board at $3 a week, the occupants furnishing their own napkins, towels, and bedding, except mattresses and pillows, and paying their laundry bill.

Built durably of stone, brick, wood and iron, and practically fire-proof; with adequate provision for safety, heat, light, ventilation, bathing and exercise, this hall offers all the comforts and conveniences of a well-appointed home.

County appointees are first supplied with rooms, and these, by act of the Legislature, are assigned by lot.

Probably no educational institution in the South affords a more attractive home for young women; and those who are favored with a county appointment, the mode for obtaining which is set forth elsewhere in this catalogue, will find that residence at the State College is brought within the means of any young woman who earnestly desires to fit herself for a life of usefulness.

# CONTENTS.

# THE STATE COLLEGE OF KENTUCKY.

## HISTORY.

AGRICULTURAL and Mechanical Colleges in the United States owe their origin to an act of Congress entitled "An Act Donating Public Lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts," approved July 2, 1862. The amount of land donated was 30,000 acres for each representative in the National Congress. Under this allotment Kentucky received 330,000 acres. Several years elapsed before the Commonwealth established an Agricultural and Mechanical College under this act. When established it was not placed upon an independent basis, but was made one of the Colleges of Kentucky University, to which institution the annual interest of the proceeds of the Congressional land-grant was to be given for the purpose of carrying on its operations. The land-scrip had meanwhile been sold for fifty cents per acre, and the amount received—$165,000—invested in six per cent. Kentucky State bonds, of which the State became custodian in trust for the College.

The connection with Kentucky University continued till 1878, when the act of 1865, making it one of the Colleges of said University, was repealed; and a commission was appointed to recommend to the Legislature of 1879-80 a plan of organization for an institution, including an Agricultural and Mechanical College, such as the necessities of the Commonwealth required. The city of Lexington offered to the Commission (which was also authorized to recommend to the General Assembly the place which, all things considered, offered the best and greatest inducements for the future and permanent location of the College) the City Park, containing fifty-two acres of land within the limits of the city, and thirty thousand dollars of city bonds for the erection of buildings. This offer the county of Fayette supplemented by twenty thousand dollars in county bonds, to be used either for the erection of buildings or for the purchase of land. The offers of the city of Lexington and the county of Fayette were accepted by the General Assembly.

By the act of incorporation and the amendments thereto, constituting the charter of the Agricultural and Mechanical College of Kentucky, liberal provision is made for educating free of tuition, the energetic young men of the Commonwealth whose means are limited The Normal Department, for which provision is also made, is intended to aid in building up the Common School system by furnishing properly qualified teachers. This College, with the additional departments which shall, from time to time, be opened as the means placed at the disposal of the Trustees allow, will, it is hoped, in the not distant future do a great work in advancing the educational interest of

Kentucky. Being entirely undenominational in its character, it will appeal with confidence to the people of all creeds and of no creed, and will endeavor, in strict conformity with the requirements of its organic law, to afford equal advantages to all, exclusive privileges to none. The liberality of the Commonwealth in supplementing the inadequate annual income arising from the proceeds of the land-scrip invested in State bonds, has enabled the Trustees to begin and carry on, upon a scale commensurate with the wants of our people, the operations of the institution whose management and oversight have been committed to them by the General Assembly of Kentucky.

## SCOPE OF STUDIES.

In the act of Congress making provision for the class of colleges to which The State College partly belongs, it is declared "that their leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education ot the industrial classes in the several pursuits and professions of life." To the three departments of agriculture, the mechanic arts, and military science, contemplated in the act as indispensable, a Normal School has been added by the State and an Experimental Station by the United States, while liberal provision has been made for instruction in all branches of science and in the classics, so that this institution is far more than an agricultural and mechanical college, embracing, as it does, not merely the three original departments, but eighteen others.

## THE NORMAL SCHOOL.

The Normal Department of The State College exists under the authority of acts of the General Assembly approved April 23, and April 29, 1880. Section 7 of the first act briefly defines the object for which the Department was established, "a Normal Department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the College." The second act provides the necessary endowment to make the Department effective.

Ten years ago, in order to prepare young men and women for doing the highest work in their chosen profession, the Department of Pedagogy was established, with a four years' collegiate course, offering Pedagogy as a major study. The attendance upon this course has steadily increased, and the work done has been of a high order.

## THE KENTUCKY EXPERIMENT STATION.

The Agricultural Experiment Station of The State College of Kentucky was established by the Executive Committee of the Board of Trustees in September 1885, when the Department was organized and a Director appointed. In 1886 the Station was recognized and named by the General Assembly, and in 1887 it became the beneficiary of the first annual appro-

priation of $15,000 under the Hatch act providing for the establishment of Agricultural Experiment Stations in the several States and Territories.

The work of the Station is directed to two objects: 1. To a constant succession of experiments made by specialists, in order to learn what applications of science will insure the best returns from the farm, the garden, the orchard, the vineyard, the stockyard and the dairy. 2. To the publication of bulletins announcing such results of the experiments as are found to be valuable to those of the people of Kentucky who seek profit from any one of those prime sources of wealth—the soil, the flock, and the herd.

Results of experiments have been published in eighteen annual reports and one hundred and twenty-nine bulletins, and general appreciation of their utility is shown in the fact that, while no bulletin is sent except upon application for it, the mailing list of the Station contains about 10,000 names, and is ever increasing.

With an ample endowment, a large and commodious building planned for the purpose, adequate apparatus, a good experimental farm conveniently situated, and a staff of fifteen scientists engaged in seven divisions of research and in correspondence with other stations, the Kentucky Experiment Station is not only an important adjunct to the College in the education of students for the leading industrial pursuits, but, directly or indirectly, through the wide and continual diffusion of knowledge for the benefit of so large a proportion of our population, it is bound to be extremely useful to the Commonwealth at large.

## LOCATION.

The State College of Kentucky is established in the Old City Park, just within the southern boundary of Lexington and near the Cincinnati Southern Railway. The site is elevated and commands a good view of much of the city and of the surrounding country.

Lexington, now a growing city of thirty-five thousand inhabitants, is in the heart of the far-famed Bluegrass region, a region distinguished for fertility and healthfulness, wealth and beauty. Numerous schools and churches, an intelligent and refined population, well paved streets, handsome buildings, extensive water-works, and an unsurpassed system of street electric railways make Lexington attractive as a seat of learning and place of residence, while the splendid stock farms scattered over the large body of fertile country around it afford advantages hardly equaled elsewhere for the student who desires to become familiar with the best breeds of horses, cattle, sheep, and swine in America. Moreover, with railroads diverging in seven directions, Lexington is the railroad center of Kentucky, and in direct connection with Louisville, Cincinnati, Maysville, Huntington, and Chattanooga, and with more than seventy counties of the Commonwealth. And when to the electric railways now in operation to Georgetown, Paris and Versailles, those projected to Winchester, Richmond, and Nicholasville shall be added,

the hourly trains of these six roads will enable students residing near them to attend the college conveniently from their homes as far as twenty miles away.

## GROUNDS.

The campus of the College consists of fifty-two acres of land, located within the corporate limits of Lexington. The South Limestone electric car line extends along the western border of the campus, affording opportunity to reach in a few minutes any part of the city. The campus is laid out in walks, drives, and lawns, and is planted with a choice variety of native and exotic trees and shrubs, to which additions are constantly being made. A portion of the land has recently been reserved for a botanical garden, in which will be grown the most desirable native plants, with a view to testing their adaptability to cultivation and to giving increased facilities to students taking agricultural and biological courses. Two and a half acres, forming the northeast portion of the campus, inclosed and provided with a grand-stand, are devoted to the field sports of the students.

About three-quarters of a mile south of the campus, on the Nicholasville pike, an extension of South Limestone street, is the Experiment Station Farm, consisting of two hundred and forty three acres. Here the field experiments of the Station are conducted, and students have opportunities to witness tests of varieties of field crops, dairy tests, fertilizer tests, fruit-spraying tests; in short, all the scientific experimentation of a thoroughly equipped and organized Station. The front of the farm is pasture and orchard. The back portion is divided off into two hundred one-tenth acre plots, for convenience in making crop tests.

## BUILDINGS.

*The Main Building.*—This is a structure of stone and brick, 140 feet long and 68 feet in width. It contains the office of the President and of the Business Agent, and on the third floor, counting the basement floor as one, is the chapel, in which each day the students and the Faculty meet for worship, and in which are held public gatherings and such other meetings as bring together the entire student body. The remaining space in this building is occupied by recitation rooms.

*The Old Station Building.*—This handsome structure is well planned for the object for which it was built. It is seventy feet in length and fifty-four feet in width, with a tower projection in front, and an octagonal projection eighteen by eighteen on the north side. The building is two stories high, upon a basement eleven feet from floor to ceiling. The main entrance is on the first floor, on the west side of the building, through an archway fifteen feet wide.

This building is henceforth to be devoted exclusively to the Department of Chemistry.

*Mechanical Hall.*—This building covers altogether an area of about 20,000 square feet, is constructed of stone and pressed brick, and is well

furnished with machinery and appliances for work in Mechanical Engineering

*The Dormitories.*—The two large dormitories on the campus afford lodgings for the students who wish to lessen expense in this direction. Other buildings on the campus are a brick dwelling for the President and a cottage occupied by the Commandant.

*Science Hall*—This hall, built during the year 1897 for the departments of Natural Science, is 96 x 97 feet, of pressed brick, trimmed with Bowling Green stone. The wide halls, the numerous and spacious lecture rooms, laboratories and offices in its three stories are conveniently arranged, well lighted, and the rooms are well furnished.

*The Farm Buildings.*—On the farm is a brick dwelling occupied by the Director of the Station, and the usual buildings for the care of tools, the protection of stock, and the like.

*The Gymnasium.*—This imposing structure of pressed brick and Bedford stone, 100 x 157 feet, with the central part three stories high, the right wing one and the left two, stands 150 feet north of the Main Building and cost $30,000.

The first floor of the central portion contains the Armory, lockers for women, and the offices of the Commandant and the Physical Director. The second floor is occupied by Alumni Hall, the Trustees' room, and a society hall. The third floor is divided into two society halls and a hall for the Y. M. C. A. All these rooms are commodious and finely adapted to their purpose. The right wing, which is 48 x 95 feet, is used as a drill-room during bad weather. The basement of the left wing is set apart for baths, lockers for men, wash-stands, closets, and a swimming pool. The second floor, the gymnasium proper, is equipped with the best apparatus that could be procured. The building is finished in yellow pine, heated by steam, and lighted by electricity.

*The New Station Building.*—This house on South Limestone, and a fourth of a mile from the campus, was completed in the winter of 1904.

The building is of two stories and the basement, of pressed brick with oolitic lime-stone trimmings. The foundation is of Kentucky gray limestone faced with broken ashlar oolitic limestone, the balustrade of terracotta. A large portico, with columns extending from the first floor line to the pediment on a level with the cornice, forms an attractive feature of the building. The cornice is massive, with large brackets.

The general design of the building, which is 114 feet long x 60 deep, is colonial, adhering as strictly as possible to classic proportion and combinations

*Patterson Hall.*—This large and handsome three-story structure, a home for the young women of the College, is now ready for occupancy. Pleasantly located on South Limestone street, a fourth of a mile north of the College, and on the street railway which lies along the western border of the spacious grounds; built durably of brick, stone, iron and wood, and made

practically fire-proof; with long and wide porches and with a large closet in every room; with adequate provision for light, heat, ventilation and exercise, this hall offers to 122 occupants, two in a room, everything needed for their health, safety, convenience, comfort and physical culture.

Cost of ground, building and equipment, $60,000.

*Normal Hall.*—A new building, which promises to be the handsomest on the campus, has been erected for the use of the Normal Department and the School of Domestic Science, and will soon be ready for occupancy. The construction is of pressed brick and Bedford stone, and the design follows the most approved style of modern school architecture. The building contains ten class-rooms, a study-room for young women and one for young men, a department library-room, two offices and a very large room for the Normal Literary Society. The completion of this building supplies a long felt need of the Normal School, and it marks the most important step in the twenty-seven years of its history.

*Agricultural Hall.*—This building, for the erection of which provision was made by the Board of Trustees at their meeting in December, 1906, will be ready for use in September, 1907. Designed to be a wing of the larger structure which the Department will no doubt eventually require, it is to be in height three stories besides the basement; in size, 45 x 100 feet, and built of pressed brick and Bedford stone. The site selected for it is on South Limestone Street and the city railway and near the south-west corner of the College campus.

The basement is to contain large rooms arranged for farm machinery, general farm mechanics, potting and propagating, and for the heating plant. On the first floor will be the office of the Dean of the Department, the general and advanced plant laboratories, the horticultural lecture-room and horticultural laboratory; on the second floor the offices of the division of animal husbandry, and an attractive reading room and society hall. The third floor will provide space for an agricultural museum, a commodious hall for the State Grange and other agricultural society meetings and exhibitions and a photographic laboratory. The cost of this wing will be $20,000 or more.

*The Library.*—This building, which is due to the munificence of that prince of public benefactors, Andrew Carnegie, is to be completed by the first of October, 1907. It is to be placed on the court between the Main Building and the President's House, to be 56 feet square, two stories high including the tall basement of range-ashlars, to be built of pressed brick, trimmed with terra cotta, and to cost $27,500.

## DEVELOPMENT.

The growth of the College from year to year is shown as follows:

1862. To establish and endow a college, chiefly for instruction in agriculture and the mechanic arts, an act of Congress apportioned to each State, for each of its Senators and Representatives in Congress, 30,000 acres of the public land.

1865. The General Assembly of Kentucky having accepted the State's portion under he conditions prescribed, established the Agricultural and Mechanical College, making it

one of the colleges of Kentucky University, then recently united with Transylvania University and located at Lexington, citizens of Lexington and its vicinity donating $110,000 to the Curators of the University to buy a site for the College. The General Assembly having authorized the Commissioners of the Sinking Fund to sell the 330,000 acres apportioned to Kentucky, by the mismanagement of the Commissioners' agent the State realized for its land only $165,000.

1866. The College opened with a President, four Professors, and a Commandant.

1878. Dissatisfied with the management of the College by the Curators, who were engaged in a long factional strife, the General Assembly severed the connection with the University, and appointed a commission to re-locate the College, to provide for its continuance in operation till re-located, and to prepare "a plan for a first-class University." Kentucky University claiming and retaining the former site of the College, the sole property of the latter after the severance was an income of $9,900 derived from the land-grant.

1880. The City of Lexington offering the City Park of fifty-two acres as a new site for the College, and also $30,000 in bonds, and the County of Fayette offering $20,000 besides, the General Assembly ratified the selection of the site made by a majority of the commission, and located the College permanently in Lexington.

1880. To provide teachers for the Common Schools of the State and for other schools the General Assembly added to the College a Normal Department, which should admit, besides other students, one from each representative district every year free of tuition.

1880. Further to endow the College and to enable it to purchase apparatus, machinery, implements, and a library; to maintain the Normal Department, and to defray other necessary expenses, the General Assembly imposed a tax of one-half cent on each hundred dollars of the assessed value of all property in the State liable to taxation for State revenue and belonging to its white inhabitants.

1880. The Classical and Normal Departments, and the Academy added.

1882. The College Building, the First Dormitory, and the President's House completed.

1885. The Commandant's House reconstructed.

1887. To enlarge by experiments and to diffuse the knowledge of agriculture, an ac of Congress established, under the direction of the Agricultural and Mechanical College in each State, an Agricultural Experiment Station, appropriating for its support $15,000 pe annum.

1887. The Department of Civil Engineering established, an experimental farm of forty-eight acres purchased, and the College Greenhouse built.

1889. The Experiment Station Building completed.

1890. The Second Dormitory completed.

1890. For "the more complete endowment" of Agricultural and Mechanical Colleges, an act of Congress appropriated to each State $15,000 for the year ending June 30, 1890, and the same sum with an increase of $1,000 per annum for ten years, after which the maximum of $25,000 should continue without change. Of the amount thus annually appropriated, the College receives 85 per cent. and the school of the colored people at Frankfort 15 per cent.

1891. The Department of Mechanical Engineering established.

1891. The Department of Anatomy and Physiology established.

1892. The Mechanical Building and Workshops completed.

1894. Greenhouses for the Experiment Station built.

1894. The Department of Physics established.

1895. The Annex to the Mechanical Building and the Insectarium for the Station built.

1897. The Department of Electrical Engineering established. Additions made to the Greenhouses and Insectarium.

1898. The Building for Natural Science completed.

1898. Sixty-four and a half acres added to the Experimental Farm, making 113 in all.

1900. Sixty thousand dollars appropriated by the General Assembly for a Collegiate Home for Young Women, for a Gymnasium and Drill Room, and a hall for the Y. M. C. A.

1901. Ninety acres added to the Experimental Farm, making, 203 in all. The Gymnasium, the Drill Room, the Halls for the Societies and the Y. M. C. A. completed.

1901. The Department of Mining Engineering added.

1902 The School of Physical Culture added.

1902. Thirty thousand dollars additional appropriated by the General Assembly for the Young Women's College Home, making $60,000 in all.

1904. Patterson Hall, the Young Women's College Home, completed.

1904. Fifteen thousand dollars per annum appropriated by the General Assembly to defray the expenses of the College.

1905. The New Experiment Station completed.

1906. The School of Household Economy added.

1907. The Normal School Building (Normal Hall) erected. Agricultural Hall to be completed by September 1. The Library Building to be completed by October 1. The Academic (preparatory) Course extended to three years. Forty acres added to the Experimental Farm, making 243 in all.

*Increase of Property.*—The property of the College is estimated to be worth $800,000 more than it was in 1880.

*Increase of Courses.*—Before 1880 the College offered a single course of study lead- to a degree; it now offers seven.

*Increase of Teachers.*—Before 1880 the College had six Professors; it now has seventeen Professors and thirty-seven assistants

*Increase of Students.*—The number in 1898-99 was 480, the largest till then in the history of the College; in 1903-1904 it was 732; in 1906-1907 it is nearly 900.

*Increase of Graduates.*—No fact more distinctly marks the growth of the College than the increase in the number of its graduates. More students have been graduated during the last three years than were graduated during the first thirty.

## THE STATE UNIVERSITY OF KENTUCKY.

Delaware excepted, Kentucky alone of the forty-six States enjoys the unenviable distinction of having no State University and no equivalent of one. While our State is discredited by her educational inferiority in this and other respects, and especially by her disgraceful illiteracy, it is yet encouraging to know that there is an earnest and apparently a growing demand for an institution of higher title, grander proportions and wider usefulness than the State College. During its forty years the College, with limited means and in the face of much opposition, has done a work of incalculable value. The record made by it has long ago justified its existence and now calls for its expansion; the State has eight hundred thousand dollars invested in it; and its advantages of location are, for Kentucky, incomparable. Not far from the center of the State; in a region unsurpassed for health, fertility and beauty, and supporting a proud, wealthy, and intelligent people, a people moreover always distinguished for devotion to education and schools; with ten railways, soon to be increased to thirteen, diverging from it, Lexington as the site of the State University offers attractions that are preeminent and manifold.

The glory of Wisconsin is her system of public schools headed by her magnificent University, and yet that State has fewer inhabitants and less wealth than Kentucky. In 1904 Kentucky gave her State College $36,830; Wisconsin gave her University $471,500; in 1905, $558,000.

Let us hope that we are in the dawn of a brighter day, and that we are to have a University on a grand scale, worthy of its chief benefactor, the City of Lexington, and commensurate with the pride and power of this great Commonwealth.

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There has been established at the College by the U. S. Department of Agriculture a Station of the Weather Bureau, with first-class instrumental equipment, and working in close connection with the College and the Experiment Station. Students who are interested in the study of meteorology and kindred sciences will find at this Station of the Bureau a rare chance for special investigation, and they are welcome to such benefits as the Station affords.

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## ADMISSION.

A student is admitted to The State College in one of six ways:

I. By examination.
II. By certificate from an accredited school.
III. By certificate from the College Academy.
IV. By transfer of credits from a college or university.
V. As a special student.
VI. By certificate from The Normal School.

### I. ADMISSION BY EXAMINATION.

After September 1, 1907, candidates for the Freshman Class will be examined—

1. IN ENGLISH.—(*a*) On Advanced Grammar. (*b*) On Rhetoric and Composition (based on a work such as Lamont's English Composition—Scribner's). English Composition ought to be taught regularly to pupils as soon as they can read simple sentences. (*c*) Reading and Practice. Preparation for this part of the work should include the ability to write a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to show the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In every case knowledge of the book will be regarded as less important than the ability to write good English. In 1907 and 1908 the books prescribed for this part of the preparation are as follows: Shakespeare's *The Merchant of Venice* and *Macbeth;* Addison's *Sir Roger de Coverly* papers; Irving's *Life of Goldsmith;* Coleridge's *Ancient Mariner;* Scott's *Ivanhoe* and *Lady of the Lake;* Tennyson's *Gareth and Lynette*, *Lancelot and Elaine*, *The Passing of Arthur*; Lowell's *Vision of Sir Launfal;* George Eliot's *Silas Marner.* (*d*) Study and Practice. Preparation for this part of the work includes the thorough study of each of the works named below; a knowledge of the subject matter, form, and structure. In addition, the candidate may be required to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong. For 1907 and 1908 the books set for this part of the

work are as follows: Shakespeare's *Julius Cæsar*, Milton's *Lycidas*, *Comus*, *L'Allegro* and *Il Penseroso;* Burke's *Speech on Conciliation with the Colonies;* Macaulay's essay on *Addison* and *Life of Johnson*.

2. IN HISTORY.—(*a*) On Montgomery's American History, or an equivalent. (*b*) On General History, in amount equivalent to Anderson's or Myers' General History.

3. IN GEOGRAPHY.—(*a*) On Advanced Descriptive, Mathematical, and Political Geography, as presented in Butler's Complete, or The Natural Advanced, Geography. (*b*) On Physical Geography, as presented by Tarr or Davis.

4. IN MATHEMATICS—(*a*). On Arithmetic. A thorough knowledge of the subject is required. (*b*) On Algebra. The student must show a thorough knowledge of the subject as presented in Wentworth's Higher Algebra, including factors, common divisors and multiples, fractions, involution, embracing the binomial theorem for positive integral exponents, evolution, theory of exponents, radicals, imaginary quantities, inequalities, equations of the first and second degrees involving one or more unknown quantities, equations solved like quadratics, simple indeterminate equations, and equations involving radicals. The student is expected to state and explain the reason for every step in his work. (*c*) On Geometry. The student must exhibit a knowledge of the subject as treated in books I to VIII inclusive of Beman and Smith's Geometry. He should be able to apply the principles of Geometry to practical examples, to construct diagrams quickly and accurately. In proving a theorem or solving a problem he should be able to prove every statement made, by going back, step by step, till he rests on primary definitions and axioms.

5. IN LATIN.—On Latin Grammar, involving quantity, accentuation, declensions, genders, conjugations, syntax and idioms; on D'Ogee's Easy Latin, twelve lives of Nepos, four books of Cæsar, 2,500 lines of Ovid, eight orations of Cicero, and Daniell's New Latin Composition.

6. IN GREEK.—On White's Beginner's Greek Book, involving quantity, accentuation, declensions, genders, conjugations, syntax and idioms; on four books of Xenophon's Anabasis, six books of the Iliad, and Gleason's Exercises in Greek Prose Composition.

7. IN FRENCH.—On Fraser and Squair's Grammar and Rambeau's Reader.

8. IN GERMAN.—On Becker's Grammar and Mueller and Wenckabach's Reader.

9. IN PHYSICS.—On High-School Physics complete, as treated in any good text-book.

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Candidates for the Courses in Science, Agriculture, Mechanical, Civil and Mining Engineering will be examined on 1, 2, 3, 4 and 9.

Candidates for the Courses in Pedagogy will be examined on 1, 2 (*a*), 3 (*a*), 4, 5 and 9.

Candidates for the Courses in Classics will be examined on 1, 2 (*a*), 3 (*a*), 4, 5, 6 and 9. If 7 and 8 be taken, 6 may be omitted.

### II. ADMISSION FROM AN ACCREDITED SCHOOL.

An applicant for admission to a class in the College who presents from the Principal or Superintendent of an accredited school a certificate that he has duly completed the courses of study prescribed for admission to that class will receive from the President of the College a permit entitling him to admission thereto without further examination.

### III. ADMISSION FROM THE COLLEGE ACADEMY.

A student who presents from the Principal of the Academy a certificate that he has properly completed the course of study set forth in the curriculum of the Academy, will be admitted to the Freshman Class of the corresponding course in the College without further examination.

### IV. ADMISSION FROM A COLLEGE OR A UNIVERSITY.

An applicant for admission who has been a student of another college or of a university of respectable standing, upon presenting a certificate of his honorable dismission therefrom, may be admitted *ad eundum gradum* in this College, provided that he shall satisfy the appropriate professors that he has duly completed a course of study equivalent to that completed by the class which he proposes to enter.

### V. ADMISSION AS SPECIAL STUDENT.

A graduate of another college or of a university may enter this College at any age in order to pursue a special line of work and study, but all others must be at least twenty-four years of age, the limit below which appointments of beneficiaries under the law must be made.

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The Board of Trustees has authorised the appointment of a Board of Examiners, by whom all appllcants for admission shall be examined.

Students who bring certificates of graduation from accredited schools shall present them to this Board, who will pass the students in the subjects covered by certificate, without further examination. On all other subjects they shall be examined for admission and classification.

The Board of Trustees allow the President of the College, at his discretion, to give free tuition to honor graduates of such accredited schools as properly prepare students for the College.

Applicants for admission to the Academy or the Normal School shall be examined *on all branches embraced in the Common School course as required by law*, and no one who has not passed actual examination shall be admitted to either.

Students from the Academy and from the Normal School are admitted on identical conditions.

## DEPARTMENTS AND SCHOOLS.

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The studies of The State College are distributed into eighteen Departments and three Schools, each in charge of a responsible head, the heads of the Departments constituting the Faculty. Arranged in chronological order the Departments and Schools are:

I. History, Political Economy, and Metaphysics.
II. Botany, Horticulture, and Agriculture.
III. The English Language and Literature.
IV. Military Science.
V. Chemistry.
VI. Mathematics and Astronomy.
VII. Modern Languages.
VIII. Greek and Latin.
IX. The Academy.
X. Pedagogy.
XI. Civil Engineering.
XII. Mechanical and Electrical Engineering.
XIII. Anatomy and Physiology.
XIV. Geology.
XV. Zoölogy.
XVI. Entomology.
XVII. Physics.
XVIII. Mining Engineering.
XIX. The Normal School.
XX. The School of Physical Culture.
XXI. The School of Domestic Science.

# COURSES OF STUDY.

## I. DEPARTMENT OF HISTORY, POLITICAL ECONOMY, AND METAPHYSICS.

PRESIDENT PATTERSON.

The course of instruction in this Department includes an outline of Ancient, Mediæval, and Modern History. Attention is given to the various forms of government, their characteristic features and points of difference; to the progress of civilization, the origin and development of parliamentary government, the rights and duties of citizenship.

In the period covered, Modern History and the History of England and of the United States occupy the most prominent place.

Walker's Science of Wealth is made the basis of instruction in Political Economy. Students are, however, made familiar with the principles upon which rest the rival doctrines of Protection and Free Trade.

The study of Mental and Moral Philosophy extends through one year. Sir William Hamilton is used as the basis of instruction in Metaphysics, and Mackenzie in Ethics. Concurrently with recitations from these authorities, the pupil is made familiar with the principles upon which rival systems of philosophy and morals are based, and the arguments by which they are maintained. Ancient and modern systems are thus brought under review, and the necessary data furnished upon which to ground intelligent opinions.

## II. DEPARTMENT OF AGRICULTURE, HORTICULTURE AND BOTANY.

PROFESSOR MATHEWS, ASSISTANT PROFESSOR HOOPER,

INSTRUCTOR GILBERT.

With the opening of the college year 1907–1908 this department occupies the new Agricultural Building upon the south-west corner of the college campus. The laboratories for Agriculture, Horticulture and Botany in this building are large, abundantly lighted, and liberally equipped with tables, water, gas and electric lights, together with microscopes, microtomes, ovens and sterilizing apparatus, balances, charts, models, etc., in accordance with their several requirements.

Lecture rooms on the first and second floors are provided with opera chairs, electric lantern for stereopticon, and other forms of apparatus for illustrative and demonstration purposes.

The greater part of the basement is devoted to farm machinery and general farm mechanics, in which is installed the growing collection of farm machinery, most of which is loaned or donated by the manufacturers. In one corner of the basement another room provides facilities for such horticultural work as propagating, potting, etc., and a greenhouse structure will, it is expected, be added upon the rear in the near future.

A beautiful room upon the second floor provided with fireplace and attractive furnishings affords a pleasant reading room and a meeting place for agricultural societies. All the best agricultural periodicals are kept on file in this room and are freely available to students.

The department library contains a large proportion of the standard works in English covering its several fields of activity, and is constantly being enlarged by additional purchases.

A photographic laboratory upon the upper floor is well supplied with equipment for doing general photographic work, the preparation of lantern slides, and the illustration of theses, and other studies prosecuted in the department.

Among other facilities for study, the department possesses a greenhouse (85 x 20 feet), giving an opportunity for the continuous study of living plants throughout the winter months, and for experiment work in plant physiology.

The herbarium contains a nearly complete representation of the flora of Kentucky, with a considerable number of foreign exchanges. It is due primarily to the efforts of the late Dr. Robert Peter, who made a quite extensive collection of Kentucky plants about sixty years ago, and also exchanged specimens with the prominent botanists of that day, thus forming the nucleus of the present collection, which therefore possesses considerable historic value. The herbarium is constantly growing by means of collections and exchanges.

In the various features of college instruction the extensive equipment of the Experiment Station farm, a few minutes' walk from the college campus, incidentally affords large opportunities for supplementary and illustrative instruction. A large herd of Jersey cattle, housed in a commodious and well equipped dairy barn, extensive and varied plots of field, forage and garden crops, with numerous other experiment studies in progress all the time, afford stimulating and interesting subjects for inquiry throughout a student's course.

The extensive live stock and other agricultural interests of the unrivalled Bluegrass country immediately surrounding Lexington may fairly be considered a vastly enlarged field of laboratory inquiry for all students of agriculture. Frequent visits are made to the various farms in this vicinity, and their owners and managers have manifested a most cordial hospitality and a willing coöperation in promoting the cause of agricultural education in our institution.

## Botany.

### I. ELEMENTARY BOTANY.

SPRING TERM.—This course is the equivalent of the usual high-school botany and is required of all students of the Scientific, Normal, and Agricultural courses who have not completed a corresponding course in some preparatory school. It consists of a study of the elements of structural botany and plant physiology, with determination of a number of species of the flowering plants. If satisfactory evidence is presented, by examination or otherwise, that such a course has been completed before entering the College, the student will be admitted directly to the general botany of the Sophomore Class.

*Text-book and reference works:* Bergen's Elements of Botany; Gray's Lessons and Manual of Botany; Bailey's Lessons with Plants.

### II. GENERAL BOTANY.

FALL AND WINTER TERMS.—Required of all Sophomores in the Scientific, Normal and Agricultural courses.

The work of the course comprises a general survey of the morphology and physiology of plants, and is designed to give the student who goes no further with the subject a comprehensive view of the entire vegetable kingdom, while for the student who will continue his botanical study it is intended to afford a substantial basis for more exhaustive special studies. While it is accompanied with lectures and recitations, the laboratory method is the form of instruction principally used, and from the very beginning of his work the pupil is directed to the study of plants themselves, using the text-book as an aid to correct his mistakes and to enlarge his field of view. He is early instructed in the use of the compound and dissecting microscopes, and with their aid he begins in the Fall Term the study of the simplest forms of the vegetable kingdom.

*Text-book:* Coulter's Plant Structures, supplemented by lectures, laboratory directions, and by numerous standard works of reference.

### III. SYSTEMATIC BOTANY.

SPRING TERM.—Required of Sophomores who elect Geology, Zoölogy, Anatomy and Physiology, Botany, or Agriculture as a major study.

The principal feature of this course is the taxonomy and classification of the ferns and flowering plants, with special reference to those groups which are of economic importance.

### IV. PLANT HISTOLOGY, ECONOMIC BOTANY.

FALL TERM.—Required of Juniors who elect Botany or Agriculture as major study.

In Economic Botany, which is assigned for Tuesdays and Thursdays, a thorough study is made of selected families of plants, with regard to their characteristics, distribution, habitat, economic importance, etc. In histol-

ogy the student is given instruction and training in collodion, paraffin, and other methods of preparing vegetable tissues for microscopic study; accompanied and followed by a study of the slides so prepared.

*Text-book:* Chamberlain's Methods in Plant Histology.

### V. PLANT PHYSIOLOGY.

SPRING TERM.—Required of Juniors who elect Botany or Agriculture.

The course is conducted by lectures and laboratory experiments, which aim to bring to the student a clear conception of the main facts and principles of plant physiology, and naturally supplement the histological studies of the Fall Term.

To a considerable extent the laboratory experiments are carried on in the College greenhouses.

*Text-books:* The laboratory manuals of Ganong and Macdougal.

## Agriculture.

### I. SOILS.

FALL TERM—JUNIOR. This course includes a careful study of the nature, origin and waste of soils; the chemical, mineral and physical nature of soils; the relation of air and moisture to the soil; soil temperature, and the objects, methods, and implements of tillage. The principles and practice of farm drainage are considered at length.

*Text-book:* King's Physics of Agriculture.

### II. GRASSES AND FORAGE CROPS.

WINTER TERM—JUNIOR. In this course the grasses and forage crops of Kentucky are considered with reference to their habit of growth, methods and cost of seeding, effect upon the soil, adaptability to different sections of the State, feeding, etc.

*Text-book:* *Hunt's Forage Crops.*

### III. THE CEREALS, TOBACCO AND HEMP.

WINTER TERM—JUNIOR. A comprehensive study is made of the cereals with reference to varieties, fertilization, culture, harvesting, production, use and marketing. Following this a similar study is made of the two Kentucky crops, tobacco and hemp.

*Text-book:* Hunt's The Cereals in America.

### IV. RURAL ARCHITECTURE AND FARM MECHANICS.

SPRING TERM—SENIOR. The course in rural architecture includes instruction in the arrangement, location and construction of farm buildings—farm homes, barns, silos, etc. The very fine barns to be found in this section afford excellent illustrative material for the work in barn construc-

tion. The work in farm mechanics embraces lectures on the steam and gasoline engines, and each farm implement is studied in detail. The students take apart and reassemble many of the more complicated machines used on the farm.

Lectures. *Text-book:* King's Physics of Agriculture.

## Animal Husbandry.

### I. STUDY OF BREEDS AND LIVE-STOCK JUDGING.

FALL TERM—SENIOR. During this term a thorough study is make of the different market and breed types of horses, cattle, sheep, and swine. Each breed is discussed with reference to its origin, history, and development, introduction to America and adaptability to Kentucky conditions. Live stock representing the different breeds and market types of animals will be brought before the class, and the work supplemented with a large number of lantern slides. Visits are made to the famous live-stock farms in the vicinity of Lexington, and in December the Senior class will visit the Chicago International Live Stock Exposition, and while on this trip visits will be made to several of the foremost stock farms of Illinois and Ohio.

Lectures. *Text-book:* Craig's Judging Live Stock.

### II. DAIRYING.

FALL TERM—SENIOR. A study is made of the production, composition and testing of milk, its marketing, separation, and pasteurization. Then follows a careful study of cream ripening, and the manufacture of butter and cheese, A study is made of creamery and cheese factory construction. The class-room work is supplemented by practical work in the creamery.

Lectures. *Text-book:* Wing's Milk and its Products.

### III. VETERINARY SCIENCE, HORSE-SHOEING

FALL TERM—SENIOR. In this course a brief study is made of animal anatomy and physiology, and obstetrics; then follows a discussion of the causes, treatment and prevention of the common diseases of horses, cattle, sheep and swine. This course is concluded by a thorough discussion of the proper method of shoeing horses, and the treatment of the different ailments of horses' feet.

Lectures. *Text-book:* Reynold's Veterinary Studies.

### IV. ANIMAL NUTRITION.

WINTER TERM—SENIOR. Having studied animal anatomy and physiology and the subject of chemistry, the senior students are prepared to study the subject of animal feeding. The students compound rations for the different animals of the farm, and study each feed stuff offered on

the Kentucky market. The department has samples of all the different feeds found on the American markets. The feeding experiments under way on the Experiment Station farm afford facilities for illustrative purposes.

Lectures. *Text-book*: Henry's Feeds and Feeding.

### V. ANIMAL BREEDING AND MANAGEMENT.

SPRING TERM—SENIOR. This course embraces a study of the principles of breeding, including selection, heredity, atavism, variation and fecundity, etc., with a presentation of the methods of breeding, in and inbreeding, cross breeding, line breeding, etc., and a historical study of their results. Pedigrees will be tabulated and familiarity with recognized stud and herd books cultivated.

The latter part of this term is devoted to a discussion of the proper methods of housing, feeding, care and management of the different kinds of farm stock.

Lectures. *Text-book:* Miles' Animal Breeding.

## Horticulture.

### I. PRINCIPLES OF PLANT CULTURE.

WINTER AND SPRING TERMS—SOPHOMORE. This course includes a review of the fundamental activities of plant life with special reference to the growth of farm and garden crops,—the plant as influenced by normal and abnormal temperatures; by its supply of water, light, food, etc.; and the effect of parasites, soil conditions, etc. A further study is made of such practical detail as propagation, seed selection, transplanting, and pruning.

*Text- and reference books:* Golf's Plant Culture; Bailey's Lessons with Plants; Bailey's Nursery Book; Percival's Agricultural Botany.

### II. POMOLOGY.

JUNIOR OR SENIOR YEAR.—A study of the principles and practice of home and commercial fruit-growing. It includes a consideration of the principles involved in location, climatic conditions, orchard plans, planting and management, harvesting, transportation, marketing, cold storage, etc.

Lectures. *Text-books:* Bailey's Principles of Fruit Growing; Goff's Lessons in Fruit Growing; Waugh's Fruit Harvesting, Storing and Marketing; together with numerous reference books.

### III. OLERICULTURE OR VEGTABLE GARDENING.

SPRING TERM (JUNIOR) AND FALL TERM (SENIOR).—A study of the principles of vegetable-growing for home and market, considered with reference to culture in the field, and forcing under glass.

Lectures. *Text-books:* Bailey's Principles of Vegetable Gardening; Green's Vegetable Gardening. Numerous books and pamphlets for reference.

### IV. PRINCIPLES OF PLANT BREEDING. WINTER TERM.

A study of the origin and development of cultivated fruits and vegetables, followed by practical work in pollination, crossing, etc., in the greenhouse and the field.

Lectures. Text-book. Bailey's Plant Breeding.

### V. THE HOME GROUNDS. SPRING TERM (SENIOR).

A course of lectures discussing the arrangement, planting and care of ornamental trees, shrubs and other flowering plants, with a view to making the farm home more attractive.

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In connection with the above courses lectures will be delivered to agricultural students by the Weather Observer, Mr. G. H. Noyes, on the principles underlying weather forecasting by the U. S. Weather Bureau.

### THE AGRICULTURAL COURSE.

The distinctive feature of this course is the instruction in those branches of study which bear the most direct and practical relation to agricultural pursuits. It includes as subjects of fundamental importance the study of General and Agricultural Chemistry, General Zoölogy and Entomology, Botany, Horticulture, Geology, General Agriculture, and Animal Husbandry.

In addition to these subjects, the student devotes considerable time to the work of other departments, including a year in English and Mathematics, courses in Drawing, French and German, Physiology, Physics and Political Economy.

To meet the needs of young men who for any reason cannot hope to complete a four years' course in Agriculture, a special course of two years has been arranged

This course includes all the more distinctively agricultural subjects of the full course, but does not lead to a degree. A certificate of proficiency will, however, be issued to those students who complete the studies of the entire course in a satisfactory manner.

### THE SHORT (WINTER) COURSE IN AGRICULTURE.

In this course an opportunity has been provided for young men who desire to excel in their chosen occupation of farming to secure an elementary knowledge of those scientific principles which lie at the foundation of all success in agriculture. In order that such a course of study may not interfere with the work of the busy season upon Kentucky farms, it begins in January immediately after the Christmas recess, and continues for ten weeks. Its aim is to give to ambitious young farmers accurate and practical information on such important topics as manures and commercial fertilizers; agricultural chemistry; soils and their origin; plant life on the farm; vege-

table and fruit growing; diseases of plants; injurious insects; the principles of veterinary science, and the treatment of the simpler ailments of farm animals; care and feeding of live stock; the dairy cow; milk and the manufacture of butter and cheese.

In such subjects as will permit it, actual practice will be given in the manipulation of materials and appliances of study, such as the care of milk, practical butter-making, spraying plants for injurious insects and diseases, and in horticulture the practices of seed-sowing, pruning and training, grafting, etc.

This course affords to young men on farms, whose time and means are limited, an opportunity to utilize the winter months to the highest possible advantage by fitting themselves more thoroughly for their life-work.

No examinations are required for admission to this course, the only requirements being that the applicant must be of good moral character, must have had a good common school education, and be at least sixteen years of age.

To residents of Kentucky, instruction in this course will be free, the only expense being the cost of a few books and other necessary incidentals, together with board and room and other personal expenses. Board and a room can be secured at prices varying from three to five dollars per week, so that the total expense of a student during his entire ten weeks' stay need not exceed from thirty-five to fifty dollars.

Further information regarding this course may be obtained by addressing President Patterson or Professor Mathews at the College.

## III. DEPARTMENT OF ENGLISH.

PROFESSOR MACKENZIE.

The course in the English language and literature is perhaps as thorough and comprehensive as circumstances will permit. The training is of such a nature as to promote individuality, and to this end occasional work is done in journalism, short-story writing, etc. For the pioneer few fields seem so fascinating as that which I have ventured to call Literatology. Literary art is but a branch of anthropology, and in attempting to trace its evolution, we may find a tentative solution of some of the more urgent problems. Possibly in the class lectures the booklover may find some suggestions new enough and true enough to quicken both reason and imagination.

The Carnegie Institution was intended to be an impartial friend of all studies that tend to interpret nature to man and man to himself, but as at present organized no grant is to be made for original research in art or in philology. Philology is a science that gives opportunities for further research, though there is no occasion to impair breadth of vision by excessive application to the microscope.

### FRESHMAN YEAR.

FIRST TERM—Literature of the Nineteenth Century. The works of the masters are regarded as kindred social phenomena. Lectures, collateral reading, and weekly exercises.

SECOND TERM—Rhetoric, its power and its powerlessness; its connection with grammar and logic. The aim is to give (*a*) some knowledge of rhetorical science, keeping in touch with the philosophy of literary expression; (*b*) practice, with personal criticism, in the various forms of composition, each student being allowed to lay stress on such lines as he desires.

THIRD TERM—One or two plays of Shakespeare, Jonson, or Goldsmith. Lectures on the Drama, its history and technique.

### SOPHOMORE YEAR.

English Literature of the Seventeenth and the Eighteenth Century, alternate years. In discussing what Dallas calls "The Gay Science," the Ossianic and other literary controversies receive incidental attention. The principles of versification.

### JUNIOR YEAR.

FIRST TERM.—English literary history of the alleged Dark Age. Readings in Middle English as found in Thomas the Rhymer and others who were independent of Chaucer. Bi-weekly study of Lloyd Mifflin's "Collected Sonnets".

SECOND TERM.—Introduction to *Literatology*. Some clues to a general theory of literary evolution from the days of primitive man. Can one principle be found that will account for the growth and decay of definite literary types—dramatic, lyric, epic—in all times and climes? Can the strictly scientific method lead to safe speculation upon the future of literature?

THIRD TERM—History of the English language; lectures on its origin, its Keltic, Teutonic, and classical elements, and its inflexions.

*Anglo-Saxon*—The course in Old English lasts throughout the year. Grammar and composition are learned simultaneously until the class is capable of reading selections from one or two of the more familiar texts.

### SENIOR YEAR.

*Anglo-Saxon*—Cynewulf's Elene, or some similar work. Lectures review the beginning of our literature and its relationship to the Keltic literature of Britain.

*Comparative Philology.*—An introduction to the scientific study of language in order to learn a few fundamental principles of. (1) Semeiology; (2) Spoken language, including phonology and grammar; (3) Recorded language, including pictography. This course consists of lectures, but requires some private collateral reading.

*Oriental Studies*—For the benefit of the more ambitious students of Comparative Philology, a course in elementary Sanskrit or Hebrew is offered. It may help those who intend to specialize in theology, and may awaken a taste for Aryan or Semitic philology, a more thorough study of which can be pursued at the student's leisure.

*Electives*—In the course of studies leading to the degree of A. B. (major study, English), Junior students may elect Greek or Latin, and are obliged to take at least one term of Analytical Geometry; Seniors may elect French or Latin, or one of the Oriental studies.

*Prize*—The works of some standard author, open for competition to all regular Junior and Senior students, are offered for the best critque of the poets of Kentucky.

*Thesis*—Senior students who take the A. B. course (major study, English) are required to write a thesis on a topic approved by the Professor of English. It must display a reasonable amount of research, and be untainted by plagiarism. An original poem of at least one hundred lines in either English or Latin may be offered as an alternative

### GRADUATE STUDY.

1. Gothic language and literature. 2. The origin and literary history of the Arthurian legends and romances. 3. Early Scottish literature, from Barbour (1375) to George Buchanan (1582), including Dunbar, Gavin Douglas, and Lindsay; or, 4, such a topic as may obtain the sanction of the Professor of English.

*Gothic*—Like Anglo-Saxon, Gothic has undergone only the first sound-shifting or ablaut, and is therefore one of the Low Germanic languages. In phonology and inflection it is the most primitive member of its family and has thus the highest historical interest for students of Old English. Grammar with readings from the Gospels. Initiation into some of the mysteries of Anglo-Saxon, Norse, and Gothic runes, followed by a brief discussion of the 3 x 8 formulation of the futhark.

SEMINAR. *Old English Legal Codes*—A special course interesting alike to the prospective law student, the philomath, and the jurist. If deemed desirable, a brief preliminary training in Anglo-Saxon syntax.

## Logic.

The Science of Logic; lectures on Pure Logic, in which Stoichiology and Methodology are explained and illustrated; explanations and illustrations of the analytics of Aristotle and the New Analytic of Sir William Hamilton; exercises in Figure, Mood, and Reduction; lectures on Fallacies and Sources of Error; on Inductive and Analogical Reasoning; on Evidence.

## IV. DEPARTMENT OF MILITARY SCIENCE.

CAPTAIN BURTT.

The military instruction is under the charge of an officer of the United States Army. The course as a whole has special reference to the duties of the line. A full supply of arms and ammunition is furnished by the War Department for the use of the cadets in this course.

Every male student able to perform military duty, and not excused for sufficient cause, is required to drill twice each week and to attend the required lectures and recitations throughout the Freshman and Sophomore years. The standings in study and drill are placed on record, and are requisite to graduation in every Course in the College.

The battalion is composed of four companies and the artillery and signal detachments. The officers are usually selected from the Junior class and the non-commissioned officers from the Sophomore class. The officers are paid a small sum for their services.

The uniform prescribed is of cadet gray; coat, trimmed with black mohair braid; trousers, with black cloth stripe, cut after the army pattern. In order that all uniforms worn here may be, in quality, make, and finish, in strict accordance with the specifications adopted by the College, all students enrolled in the military department are required to obtain them from the firm only that may for the time being be under agreement to furnish said uniforms at a stated price and of standard quality.

### THEORETICAL INSTRUCTION FOR ALL MALE STUDENTS.

Infantry drill regulations, U. S. Army. Firing regulations. Manual of guard duty. Army regulations.

Lectures on the organization and administration of the United States Army, and the general principles of the art of war. Freshman and Sophomore years, one hour per week.

### PRACTICAL INSTRUCTION FOR MALE STUDENTS.

*Infantry.*—School of the soldier, squad, company and battalion; ceremonies; guard duty; minor tactics.

*Artillery.*—School of the cannoneer, and battery, dismounted; ceremonies; guard duty.

Freshman and Sophomore years, two hours per week.

### THEORETICAL INSTRUCTION FOR ALL OFFICERS AND SERGEANTS.

Military administration ; field engineering; elements of the art of war; preparation of reports and returns.

Sophomore and Junior years, one hour per week.

## V. DEPARTMENT OF CHEMISTRY.

PROFESSOR TUTTLE, ASSISTANT PROFESSOR MAXSON.

The Chemical Department dates from the establishment of of the institution. For many years it was under the direction of Dr. Robert Peter, who, by his labors in analytical chemistry, has probably done more than any other man to develop the abundant mineral resources of the State. Formerly the chemical laboratories occupied the eastern part of the Main College Building. In 1880, the Kentucky Experiment Station Building having been completed, the Chemical Department was removed to the more suitable rooms of the Experiment Station. The lecture-room and the laboratories, qualitative and quantitative, of the Chemical Department are well adapted to their purpose and are among the best constructed and most handsomely furnished of the rooms in the College. The qualitative laboratory contains the large working tables, each of which can easily accommodate ten students The quantitative laboratory is also well equipped with tables, hoods, water, gas, and electricity, and has desk room for at least fourteen students in all. The lecture-room is well lighted and heated and beautifully furnished and commodious, having a seating capacity of about seventy-five.

By the recent removal of the Experiment Station to its new building, the Chemical Department of the State College has succeeded to the entire building, a part of which it had occupied hitherto conjointly with the Experiment Station. With its facilities thus enlarged, and in a building now wholly devoted to Chemistry, an opportunity is offered for the expansion of the Chemical Department in various directions.

### APPARATUS.

The Department is well supplied with the commoner forms of chemical apparatus and chemicals. In addition to these it owns several of the more expensive pieces of apparatus, such as several delicate balances for analytical work; a grand model Bunsen & Kirchoff spectroscope; platinum apparatus; a glass model ice-machine. These will be added to from time to time, as the needs of the Department demand and the resources of the institution permit; as it is now, however, the equipment is such as readily to enable the student to obtain at first hand a good working knowledge of the principles of chemical science.

### COURSE IN CHEMISTRY.

The Chemical course is one of the several scientific courses offered by the College. It is offered with the view of preparing the student for life work in Chemistry, or of fitting him for the study of medicine and kindred professions To the accomplishment of this purpose the following course of study, extending over a period of four years, has been adopted.

### STUDIES REQUIRED

The first year is devoted to the study of English, German, Physiology, Free-hand Drawing, and Mathematics, including Plane Geometry, Trigonometry, and Algebra. The second year to German, Physics, Botany, Chemistry, and Mathematics, including Solid and Analytical Geometry, and Calculus. The third year to Theoretical Chemistry, English, Calculus, French, and laboratory work on the Chemistry of the metals and on Qualitative Analysis, Mineralogy, and Blow-pipe Analysis. The fourth year to Quantitative Analysis, Organic Chemistry, Chemical Reading on advanced topics, and to Chemical Research, History and Political Economy, Logic and Mental Philosophy.

For further information as to requirements, the complete catalogue may be consulted

### THE TRAINING IN CHEMISTRY PROPER.

The study of Chemistry proper, as outlined in the above, is sufficient in its scope to bring the student into close contact with the great fundamental truths of the science.

The course in General Chemistry, extending through the second and third terms of the second year, consists of lectures and recitations five times weekly on the non-metals and their compounds and the simpler laws of chemical change. The lectures are illustrated by experiments; the laboratory work is carefully directed, and the student receives every possible encouragement to do creditable work.

In the third year the stndy of Chemistry consists of laboratory work and Theoretical Chemistry. The study of Theoretical Chemistry, consisting of lectures, recitations, and readings five times weekly throughout the year, is intended to acquaint the student with the greatest generalizations and theories of modern chemistry and their historical development. In this connection about fifty lectures are delivered annually upon the following general topics: ten upon the Atomic Theory, its development, and the methods at present used in the determination of atomic weights; fifteen upon the Compounds of Carbon, Isomerism and Structural Formulæ; ten upon the History of Chemistry; five upon the Periodic Law; five upon the Spectroscope, Spectrum Analysis, and the Chemistry of the Heavenly Bodies; five upon the more important current chemical investigations.

By way of supplementing the work of the lecturer, students pursuing this course will be required to do a certain, rather liberal, amount of general reading upon the matter treated of in the lectures or upon such other topics as may be assigned to them. For this purpose the nucleus of a chemical library has been formed, which may be freely consulted by any or all students in the College, and the leading chemical journals of this and other lands will there be kept on file. The broadening influences of such a course of study can scarcely be overestimated, and the students who complete it satisfactorily will find themselves abreast of the highest and best chemical thought of our time.

The laboratory work during the first term of the third year is devoted to the study of the metals and their more important compounds, and to qualitative analysis. This work is intended to supplement the work of the first year upon the non-metals, and also to familiarize the student more fully with the commoner methods of chemical manipulation and practice. The laboratory work of the first term will be followed during the second and third with laboratory work in quantitative analysis, by means of which the student learns the value of precise and accurate work and the constancy and definite character of chemical reactions. The chemical work of the last year will consist of such special work as the student may elect, together with the preparation of a thesis embodying the results of this special work. The object of such special arrangement is to perfect him in that branch of the science for which he shows a liking or talent. In this connection it may be well to state that facilities are offered for special work along the following lines: Theoretical and Physical Chemistry, Organic Chemistry, Agricultural Chemistry, Physiological Chemistry, general analytical work, and special analytical work on fertilizers, iron and steel fuels.

### CHEMISTRY REQUIRED IN OTHER COURSES.

Instruction in Chemistry in other courses of study is designed to meet the special needs of the student in these various directions.

In the Classical Course the study of this science extends over five months, five times weekly, and is intended simply to introduce the student to the subject by the way of general education.

In the Scientific Course the work extends over ten months. A portion of this time is devoted to the study of metals and qualitative analysis by means of laboratory work. In the course of Mechanical Engineering the instruction is adapted as completely as possible to the needs of students in this department. Instruction in chemistry in this course extends over a period of two terms, five months of which are devoted to the study of the non-metals and their compounds; five to the chemistry of the metals with special reference to the properties which render them useful to the mechanical engineer, and also with reference to their mode of occurence in nature and the methods of obtaining them from the ores; one term's work in Metallurgy is also required.

For students in Civil Engineering a course in Chemistry has been provided as follows: General Chemistry, one term; laboratory work on the metals, one term.

In the course of Mining Engineering instruction in Chemistry extends over a period of three terms, and includes the following subjects: General Chemistry, the Chemistry of the metals and Quantitative Analysis. In addition, one term's work in Metallurgy is required.

The instruction in Chemistry is also adapted as fully as possible to the needs of students in Biology. Instruction in this branch extends over two terms, five times weekly. The first half of the time is devoted to the study of Elementary Chemistry. This is followed by laboratory work in the afternoon upon those elements which are regarded as essential to animal and vegetable life.

## VI. DEPARTMENT OF MATHEMATICS AND ASTRONOMY.

PROFESSOR WHITE.

### PREPARATORY.

A thorough knowledge of Arithmetic, of Algebra, through quadratic equations, as presented in Stone and Millis's Higher Algebra, and of Plane and Solid Geometry as presented in Beman and Smith's Geometry, is required for admission to the Freshman Class in Mathematics.

### FRESHMAN CLASS.

FIRST TERM--Murray's Plane Trigonometry.

SECOND TERM—Stone and Millis's Higher Algebra, from Chap. XIX.

THIRD TERM—Stone and Millis's Higher Algebra completed.

### SOPHOMORE CLASS.

FIRST TERM—Nichols's Analytical Geometry begun.

SECOND TERM—Nichols's Analytical Geometry continued; Granville's Calculus begun.

THIRD TERM—Nichols's Analytical Geometry completed; Granville's Calculus continued.

### JUNIOR CLASS.

FIRST TERM—Granville's Calculus completed.

### SENIOR CLASS.

FIRST TERM—Spherical Trigonometry.

SECOND TERM—Moulton's Introduction to Astronomy begun.

THIRD TERM—Moulton's Introduction to Astronomy completed.

## VII. DEPARTMENT OF FRENCH AND GERMAN.

PROFESSOR ZEMBROD.

### French.

### PREPARATORY.

FIRST YEAR—Fraser and Squair's Grammar, Part I; Rambeau's Reader; Lamartine's Jeanne d'Arc.

### SECOND YEAR.

Fraser and Squair's Grammar, Parts I. and II., throughout the year. Dumas' La Tulipe Noire, or an equivalent. Drill in conversational French, constant practice in pronunciation, writing from dictation, memorizing of French prose; Historiettes Modernes; Fleurs de France.

### THIRD YEAR,

Fraser and Squair's Grammar, Parts II. and III., throughout the year. Taine's L'Ancien Regime; Bowen's French Lyrics, or an equivalent;

Coppee's Le Luthier de Cremone, and Le Tresor; Victor Hugo's Hernani, or an equivalent; Gautier's Voyage en Espagne.

Each student is required to read at home one volume at least during the school year, and to report upon it before the class during the Spring Term. Books will be assigned late in the Fall Term, among them Corneille's Le Cid, Racine's Athalie, Moliere's L'Avare.

### German.

#### PREPARATORY.

FIRST YEAR—Bierwirth's Elements of German; Mueller and Wenekabach's German Reader.

#### SECOND YEAR.

Composition based on some German text; writing from dictation; conversational drill; sight translation and rapid reading of easy texts; German Lyrics; Eichendorff's Aus dem Leben eines Taugenicht's, or an equivalent; Storm's Auf St. Juergen, or an equivalent; Schiller's Wilhelm Tell.

#### THIRD YEAR.

Bierwirth's German Grammar; composition; writing from dictation; sight translation; oral drill through the year; Hillern's Hoeher als die Kirche; Baumbach's Frau Holde; Victor von Scheffel's Trompeter von Saeckingen; Schiller's Maria Stuart ; Lessing's Minna von Barnhelm; Goethe's Goetz von Berlichingen, or an equivalent; Freitag's Soll und Haben; Goethe's Hermann und Dorothea, Schiller's Das Lied von der Glocke.

## VIII. DEPARTMENT OF GREEK AND LATIN.

PROFESSOR NEVILLE, ASSISTANT PROFESSOR JONES.

### Latin.

#### PREPARATORY.

*First Year*—Moore's Grammar, with a daily exercise in inflection and in translation from and into Latin on the blackboard; easy Latin readings.

*Second Year*—Twelve lives of Nepos and four books of Cæsar, or Second Year Latin; Daniell's New Latin Composition.

*Third Year*—2,500 lines of Ovid, with scanning; eight orations of Cicero.

#### FRESHMAN CLASS.

Six books of the Æneid; the first and the twenty-first book of Livy; Johnson's Private Life of the Romans.

#### SOPHOMORE CLASS.

The Captives of Plautus, or Suetonius's Life of Augustus; Sallust's Conspiracy of Catiline; Cicero de Senectute; exercises in composition.

### JUNIOR CLASS.

Horace, except a part of the Epodes and most of the Satires, with the scanning of the more common metres; the Germania and the Agricola; letters of Cicero or of Pliny; Bradley's Latin Prose Composition.

### SENIOR CLASS.

The third, eighth, tenth, and fourteenth Satires of Juvenal; Seneca de Beneficiis; selections from Lucretius; prose composition.

## Greek.

### PREPARATORY.

*First Year*—White's Beginner's Greek Book, with a daily exercise in inflection and in translation from and into Greek on the blackboard; selections from a Greek Reader.

*Second Year*—Four books of the Anabasis; six of the Iliad; exercises in Greek prose composition.

### FRESHMAN CLASS.

Selections from Herodotus; Xenophon's Memorabilia; Plato's Apology and Crito; Jebb's Sketch of Greek Literature.

### SOPHOMORE CLASS.

Lysias against Eratosthenes; Demosthenes on the Crown; selections from Lucian's dialogues; exercises in syntax and composition.

### JUNIOR CLASS.

Selections from Thucydides; poems of Theocritus, Bion, and Moschus.

### SENIOR CLASS.

Three dramas—Prometheus, Medea or The Clouds, Œdipus Rex or Antigone.

The curriculum leading to the classical degree of A. B., and set forth in the Schedule page —, includes English, Greek, Latin, French, German, History, Political Economy, Metaphysics, Mathematics, and some Physical Science. The grouping of these studies is designed to meet the needs of those students whose tastes and aptitudes incline them to literature rather than to science; who seek not knowledge alone but culture* as well; and who, moreover, desire a course of studies suited to those who are to prepare themselves for a profession, and to become teachers, preachers, physicians, lawyers, journalists, writers or scholars, or, it may be, legislators or authors.

To this brief statement of the objects kept in view in making up this group of studies it is due to this Department, and not meant to be invidious, to add, that statistics published annually by the U. S. Commissioner of Education show that, even in this country where scientific and the so-called practical studies are so strongly and so justly recommended and encouraged, that even here the classical course is from three to six times more popular than any other; while the English, the French, and the Germans, who in letters, arts, and

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*Culture implies knowledge, but it is much more. A man of liberal culture is he whose mind has been trained to express thought, by tongue or pen, on many subjects, and in words of clearness, force and beauty.

arms rank highest in the scale of nations, devote far more attention to these studies than we. Indeed, as showing the educational trend of the most intelligent people that has ever existed, it is a fact of impressive significance that a vast Thesaurus Linguae Latinae, *Thesaurus of the Latin Language*, and written in Latin, the product of five leading universities of the Germans, and therefore of the world, Berlin, Leipzig, Goettingen, Munich and Vienna. is now appearing from the press of Teubner. This magnificent and monumental work is to consist of twelve volumes quarto, each as large as Webster's Uuabridged, and to sell, when durably bound, for more than $200 a copy. No other language has had such a dictionary, and this Thesaurus is the greatest contribution ever made to the study of that language which to every highly civilized people is more important than any other except their own; which has formed nearly half of ours and more than half of three others; and which, therefore, cannot, in any rational scheme of education, be neglected or disparaged, but must retain its place if not its primacy among the most useful studies that man can pursue.

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The Professors of this Department offer courses of study equal to those of the best land-grant colleges, courses as long and as varied as the grade of their students and other limitations allow. In offering them they announce that their method of instruction, so far as it is distinctive, rests on the assumption that ability to write a language well is the infallible test of a real knowledge of it. Unusual attention is therefore given to Greek and Latin composition, the first session being devoted almost entirely to the writing of exercises. This leads directly to an accurate knowledge of the forms and meanings of words, of the rules of syntax, and of the idioms. Every student of the classes in grammar is required daily to translate on the blackboard an exercise from Greek or Latin into English, and another from English into Greek or Latin, and then to write out declensions and conjugations, with careful attention to the length of syllables and to accentuation. His work is then rapidly corrected by the teacher, who in making his corrections supplements the lesson of the text-book with instruction on the order of the words, on synonyms, on the derivation of English words suggested by the words of the exercise, and on other pertinent matters. This process involves great labor for the student and drudgery for the teacher, but it leads to a mastery of the grammar and to much more.

The second session is spent mostly in reading the easy Latin of Viri Romæ, Nepos, and Cæsar, or the easy Greek of the Reader and Xenophon, considerable attention being still directed to the writing of exercises. The student is encouraged in the habit of first reading the sentences in the Greek or Latin order of the words, and of then translating them in the English order and idiom. The translations are partly oral, partly written.

During the remainder of the courses the bright and diligent student proceeds from the easier authors to the more difficult, enlarging his vocabulary, extending and sharpening his knowledge of forms, syntax, and idioms, incidentally directing his attention to metres, geography, history, mythology, and antiquities, and perpetually and supremely to the effort to find the best English expression for the Greek or Latin thought; for, while more than a third, and that too unspeakably the most difficult third, of our own magnificent language is derived from Greek and Latin, and while the study of these tongues is therefore intensely practical to those who speak English, and indispensable to all who would thoroughly acquire it, yet it is in the intellectual training to be had from the proper translation of the Greek and Latin authors that the advocates of classical learning find their amplest justification and defense, their most cogent plea. The ceaseless quest for the clearness, force, and beauty of the best English, in order to find an equivalent for the best Greek or Latin, calls into play every faculty of the mind, and gives to classical studies an educational value which, we insist, no substitute can equal.

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The Germans are admitted to be the leading educators of the world. In the nine years' curriculum of their 443 gymnasia, which are their best secondary schools (corresponding to our colleges, but conferring no degrees and with fewer studies far better taught), they assign

to the study of Greek and of Latin a higher educational value than to any other study.* In the 227 Prussian gymnasia, for example, Latin, by the time devoted to it, is valued at 62, Greek at 36, and Mathematics, the next highest study, at 34. In the other parts of Germany the difference is greater still. In the Saxon Gymnasia, Latin is valued at 72, Greek at 41, mathematics at 33; in those of Würtemberg, Latin at 81, Greek at 40, mathematics at 33. Similarly, in the great public schools of England. including Oxford and Cambridge (with a higher estimate of mathematics, however), as well as in the Lycées, the leading secondary schools of France, the utility of the study of the Latin language as a medium of intellectual training and culture is everywhere recognized as supreme. And the results have justified the estimate. A system of education by which a host of great men, from Bacon to Gladstone, have been fitted for their splendid careers, is assuredly not a bad one, and in that system Greek and Latin have always held the first place.

*"The classical literature is, and will continue to be, the source of all our culture. It must remain, therefore, not only an indispensable but by far the most important study in our higher schools."--Frederic Gedike. And yet the German language owes little to Greek and Latin, while the English owes to them nearly half its words. The inference of course is that the study of Greek and Latin is far more useful to an American or an Englishman than it can be to a German, for the German derives culture from the study and the Amer can or Englishman both culture and a knowledge of his language.

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While no wise man will seek to disparage or unduly to exalt any branch of knowledge, it is not invidious to say that though the vast expansion of science during the wonderful nineteenth century has contributed enormously to the comfort and glory of man, yet an immense majority in the civilized nations will continue to feel more interest in man and his doings than in matter and its properties, more in literature than in science, and more in the applications of science than in its principles and processes.

Greek, the marvelous tongue of the most intellectual of all the races; the tongue that has contributed thousands of words to our own; the tongue that enshrines the noble literature which has been the model of supreme excellence for twenty centuries; Greek, in the crowded curricula of American schools, especially of co-educational schools, will, for ordinary students, naturally give place to the easier and more practical French and German. The more gifted or ambitious, who seek high scholarship and a more liberal culture, will learn Greek, and of course French and German. Nay, when a student of high spirit finds that he must know eight languages to read the notes to so common a work as Macaulay's History or Buckle's, he will be ashamed to skip any, and he will not be satisfied till he can read them all, including those in Greek.

It is timely to mention that after long and earnest debate, the proposition to substitute French and German for Greek in the course for A. B. at Oxford and Cambridge has lately been voted down by a great majority. A needless wrangle, easy to settle once for all by giving a higher degree to those who learn all these languages and a lower to those who omit Greek or French or German.

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In the eighteenth century the supreme writers of English prose were Burke and Gibbon; in the nineteenth, De Quincey and Macaulay. All of them were distinguished classical scholars, and they used more words of Latin than of Saxon origin. But whether a writer should use more words of either class than of the other, depends on his subject and his readers: a Saxon-English Paradise Lost, and a Latin-English Pilgrim's Progress would have been alike impossible.

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IX. The Academy is described after the Collegiate Departments.

## X. DEPARTMENT OF PEDAGOGY.

PROFESSOR MILFORD WHITE, ASSISTANT PROFFESSOR FLESHMAN.

The Normal Department of the State College exists under the authority of acts of the General Assembly approved April 23 and April 29, 1880. Section 7 of the first act briefly defines the object for which the Department was established, "a Normal Department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the College." The second act provides the necessary endowment to make the Department effective.

Acting under the clause above quoted from the incorporating act, the authorities of the College have organized two distinct but closely related sub-departments of work for teachers. These are the Normal School and the College-course in Pedagogy; the one designed to prepare teachers for the elementary schools; the other, for secondary schools and colleges.

In this arrangement the State College of Kentucky is unique and possesses a distinct advantage. Through the Normal School it comes into close and sympathetic touch with the masses of the teachers througout the State; and through the college course it comes into vital contact with the more advanced teachers and the higher schools.

Many students who come to the Normal School are led, as the result of what they see of the college work, to undertake an advanced course. The Normal School thus discharges a function whose value cannot be overestimated, in that it introduces many of the most intelligent youth of the State to the facilities which the college can offer them.

### COLLEGE COURSES IN PEDAGOGY.

In 1893 the college authorities, in response to a strong demand for advanced instruction for teachers, organized a full collegiate course leading to the degree of Bachelor of Pedagogy. In 1906 two full collegiate courses, each with Pedagogy as a major, were substituted for the course established in 1893. One leads to the degree of Bachelor of Arts in Pedagogy and the other, to Bachelor of Science in Pedagogy. Students are admitted to the Freshman Class of either of these courses upon the completion of the course in the Academy, the State Diploma Course in the Normal School, or an equivalent course in an accredited school.

Under an act of the General Assembly of Kentucky, approved March 21, 1906, the College issues life certificates to teach in the schools of the State to persons who complete any one of these courses.

The pourpose of these courses is to fit young men and women for the best services as teachers in high schools, academies and colleges. To realize this purpose these courses offer, in addition to the usual amount of work in science, language, history. and mathematics, specialized instruction in the following subjects:

### PSYCHOLOGY.

In the second term of the Freshman year the subject of Psychology is presented, chiefly with reference to its value to the teacher. Psychology is treated as the basis of the science of education and the art of teaching. No time is spent in mere speculative discussions, but from the very first the effort is made to connect the subject vitally with the teacher's actual work in the school. Especial attention is given to the mind's functions in Acquiring, Assimilating, and Expressing. The value of Psychology also is shown as the basis of Methodology, and of Educational Economy.

The text-book is "Halleck's Pyschology."

In the third term of the Sophomore year Psychology is studied from a more advanced standpoint, much of the time being devoted to the special Psychology of the higher branches.

Text to be selected.

### GENERAL PEDAGOGY.

In the second term of the Sophomore year the student is given a general view of the whole field of Pedagogy through a synoptic outline in connection with a good text on the subject. The purpose is to present enough of each topic in Pedagogy to show the trend of each important question in modern education. The work is carried on both by lectures and class discussions.

Text to be selected.

### METHODOLOGY.

Through the third term of the Sophomore year the student carries the work in Methodology, all of which is based directly on Psychology.

The principles of general method, and the special methods of each school subject are thoroughly discussed, and much drill is given in the making of lesson-plans.

The text-book is "Smith's Methodology."

### THE HISTORY OF EDUCATION.

The third term of the Junior year is devoted to the History of Education.

It is found much the best plan to place this study towards the latter part of the curriculum, because by the time it is taken up the students in Pedagogy are sufficiently familiar with the different divisions and problems of the subject to understand and interpret the history of educational development.

The text-book used is "Seeley's History of Education," but in this subject the library is freely used.

### PROFESSIONAL READING.

For a student to get the best results from the study of any subject, he should read as widely as possible in the literature of the subject. This is

especially true of education, which has such a wealth of literature and touches closely so many other subjects. One term, and when possible more time, is devoted to the reading and analysis of such books as Butler's "The Meaning of Education," Jordan's "The Care and Culture of Men," Hanus' "Educational Aims and Educational Values," Henderson's "Education and the Larger Life," Hinsdale's "Jesus as a Teacher," etc.

The department library is well stocked with the best pedagogical literature, and pupils are urged to make constant use of it.

### OBSERVATION WORK AND CITY SCHOOL PROBLEMS.

The erection of the new Normal School Building will enable this Department to organize one of the most complete model schools in the South, and thereby to offer excellent facilities for observation work. The building is now nearing completion and will be fitted up with the most modern equipment and ready for use the first of September, 1907.

The excellent system of public schools in operation in the city of Lexington offers unusual opportunity for the study of City School Problems, and the hearty co-operation of the City Superintendent in this work enables the students in this Department to derive much good from this source.

### THESIS.

Each candidate for a Bachelor's Degree in Pedagogy is required to write a thesis upon some theme assigned by the Dean. This work must be done acceptably and a copy of the thesis left with the Department.

By act of the late General Assembly graduates of this Department are authorized to teach during life, unless they cease teaching for five consecutive years.

## XI. DEPARTMENT OF CIVIL ENGINEERING.

PROFESSOR ROWE, ASSISTANTS CARREL AND BURTT.

The course of Civil Engineering is planned to acquaint the students with the knowledge of the subjects necessary to enable the civil engineer to develop himself into a skilled practitioner of his profession in any of its several branches. So far as possible the importance of each subject taught is illustrated by its application to some work similar to that which is met with in actual practice. An effort is made to render the course valuable, not only for the professional uses, but also from an educational standpoint; therefore, while the student is learning each subject, both theoretically and practically, the training of his mind as well as the needs of his profession is kept in view. In addition to the purely technical matters included in the course, provision is made for the study of English, History, and Political Economy.

### EQUIPMENT.

The Department of Civil Engineering occupies on the second floor of Engineers' Hall an office, recitation room, and drawing room, and also in

the new dormitory two recitation rooms and a large drawing room. The field and office instruments belonging to this Department consist of six transists, three levels, two solar attachments, one needle compass, one plane table, one precise pantograph, level rods, stadia rods, tapes, and other minor accessories. The library for the use of students in engineering contains a well selected supply of standard literature and periodicals pertaining especially to Civil Engineering.

### DRAWING.

*Drawing.*—Geometrical problems, detail and dimension drawing, tracing details, isometric drawing, pen topography, free-hand and mechanical lettering.

*Descriptive Geometry.*—A study of the representation of lines, planes, surfaces, shades, shadows and perspective. Lectures, recitations, drawings, and assigned problems.

*Stereotomy.*—Plane-sided surfaces, structures containing developable surfaces, structures containing warped surfaces, structures containing double curved surfaces.

### SURVEYING AND GEODESY.

*Land Surveying.*—An elementary course in land-surveying methods and the use of surveying instruments, with recitations, lectures, and field work. The field work affords practice in the use of chain, tape, compass, transit, and level.

*Topographic Surveying.*—The use of the hand level, the theory and use of the stadia and other instruments used in making a topographic survey are studied; also the method of topographic surveying. A complete topo-raphic survey is made, based on a system of triangulation, including the calculations, and completing and platting the map.

*Geodesy.*—Base line measurements, measurements of angles, horizontal and vertical; field methods for time, latitude, longitude and azimuth. Students are required to make and reduce observations illustrating the work of the course.

### APPLIED MECHANICS AND HYDRAULICS.

*Elementary Strength of Materials.*—Elastic and ultimate strength; general properties; moments for beams; cantilever and simple beams; columns and struts; the torsion of shafts; elastic deformations; resilience of materials; reinforced concrete.

*Elementry Mechanics.*—Concurrent forces; parallel forces; center of gravity; resistance and work; simple machines; gravity and motion; inertia and rotation,

*Advanced Strength of Materials.*—A study of the principles, and applications to engineering, of the mechanics of solids, as related to the mutual actions, motions, pressures, strength, stiffness, and resilience of the members of structures and machines.

*Analytical Mechanics.*—Statics of a material point; statics of a rigid body; statics of flexible cords; rectilinear motion of a material point; curvilinear motion of a material point; moment of inertia; dynamics of a rigid body; work, energy and power; friction.

*Hydraulics.*—This course consists of text-book exercises, together with the solution of numerous problems covering the principles of hydrostatic and hydrodynamic pressure, the flow of water through orifices and nozzels, over wires, and through pipes and open channels, and the loss from friction and other sources.

*Irrigation and Draining.*—Grades, cross-section and capacity of canals; surveys, design of structures, dams, conduits, levees, etc. Lectures, readings and collateral reports.

*Cement Laboratory.*—The work in cement testing is taken in connection with masonry construction.

*Materials Laboratory.*—Testing of wood, iron, and steel. This course is given in connection with that on the Advanced Strength of Materials.

## MUNICIPAL AND SANITARY ENGINEERING.

*Water Supply and Water-works Design.*—Requisites of supply; sources of supply; rainfall; surface water; rivers and lakes; ground water; gravity systems; pumping systems; dams and embankments; purification of water; pumping and pumping engines; designing; construction; maintenance.

*Sanitary Engineering.*—Sewerage systems; separate and combined; hydraulics of sewers; determination of size and capacity; surveys for drainage systems; design of system in detail; specifications and estimates of cost; inspection of work; methods of disposal; irrigation; filtration; chemical precipitation; bacteriolytic methods; house drains; garbage disposal.

*Sanitary Design.*—This course consists of a complete design for the collection and purification of sewage.

*Roads, Streets and Pavements.*—Lectures, assigned readings and reports.

## RAILROAD ENGINEERING.

*Street Railway Location.*—Location of curves; compound curves; changing radius; shifting curve; turnouts from straight track; turnouts from curved track; sidings and crossovers; location; earthwork computation.

*Railroad Engineering.*—This course consists of a thorough study of curves and earthworth and their application in location and construction. In the field practice, the class makes preliminary and location surveys of a line of railroad of sufficient length to secure familiarity with the methods of actual practice.

## STRUCTURAL ENGINEERING.

*Structural Drafting* —The work in structural drafting consists of fifteen plates of structural details. This course is completed before any other work of a structural nature is undertaken.

*Stresses in Framed Structures*—

(*a*) Analytical Method.—Stresses in roof trusses; bridge trusses under live loads; final stresses for bridge trusses; American bridge trusses; bridge bracing members and floors.

(*b*) Graphical Method.—Principles and methods; roof trusses; bridge trusses; locomotive wheel loads; trusses with broken chords; miscellaneous trusses.

*Structural Details.*—Methods of proportioning individual members of framed structures, and the design of joints and splices in steel and wooden structures; design of a roof truss and a railway plate girder bridge; practice in making complete shop drawings.

*Metal Construction.*—The study and design of mill buildings are taken up and also the study of railroad trestles, mine structures, grain elevators, towers, tanks, etc.

*Bridge Design.*—Theory and design of steel structures, including railway and highway bridges; standpipes, towers and other problems of structural interest.

### CONSTRUCTION.

*Tunneling.*—A study of the principles of tunneling, and of the methods employed in constructing some of the noted tunnels.

*Masonry Construction.*—Properties of stones, brick, cement and concrete, and their uses in engineering structures. Foundations, retaining walls, piers and abutments, dams and chimneys. In addition to the textbook work the students make a series of tests in the cement laboratory.

*Reinforced Concrete.*—Determination of form and proportions. Lectures, computations, and drawings. Design of columns, beams, arches, etc.

### ARCHITECTURE.

In outlining a course of instruction in architecture the intention is to supply the preliminary training required for the practice of architecture. Architecture is a fine art, and its practice must be based on a broad training in design and on the principles underlying sound construction.

In beginning a course in architecture only the work of the first two years is outlined. Additional courses will be offered each succeeding year until a full four years' course has been established.

### COURSE OF INSTRUCTION.

*Elementary Free-hand Drawing.*—A course of free-hand drawing, extending through the first two terms of the Freshman year.

*Mechanical Drawing.*—(See Mechanical Drawing and Descriptive Geometry in the Civil Engineering Course).

*History of Architecture.*—This course continues throughout the year, commencing with Egyptian and ending with modern architecture. A careful study is made of the more important styles. Especial attention is

given to ideas useful or suggestive in American work. Recitations, illustrated lectures and assigned readings.

*Architectural Perspective*.—Rendering of scenic effects and views in water colors, comprising skies, distance, trees, foliage, shrubbery and foreground details.

*Masonry Construction*.—See course in Civil Engineering.

### THESIS.

The object of the thesis is to determine the student's ability to enter upon a course of independent investigation, and thus to apply some of the fundamental principles learned in the regular course of instruction.

## XII DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

PROFESSORS ANDERSON, WILSON AND FRANKEL.

This department was organized August, 1891. The growth in attendance has been healthy, and for some years it has had the largest attendance of all of the four-year courses.

The home of this department is Mechanical Hall, a brick building trimmed with stone, having a floor area of 20,000 square feet. There are three recitation rooms and two drawing rooms, in which theoretical subjects and mechanical drawing and design are taught.

Practical experience in the wood and pattern shop, the foundry, the blacksmith shop and the machine shop, is obtained during the first two years of the course.

Experimental work in mechanical and electrical engineering is done in the engineering laboratories. The main laboratory is in Mechanical Hall, and contains the necessary machinery and apparatus for experimental work of a dynamic character, in both mechanical and electrical engineering. An auxiliary laboratory is situated in a detached two-story building. This building contains concrete piers, so that careful measurement can be made in the study of magnetic and electric phenomena; it also contains apparatus for work in photometry and telephony.

The equipment of the department is described briefly as follows:

The drawing rooms contain drawing tables and boards to accommodate about one hundred students.

Power is supplied to the shops by a 10-inch by 24 inch Hamilton-Corliss non-condensing engine.

The wood-shop contains thirty benches, each with a complete set of bench tools, and twenty-two lathes, each with a complete set of wood-turning tools. Besides these there is a band saw, jig saw, two circular saw tables, a trimmer, and a grindstone.

The foundry contains a 30-inch cupola furnace, having a capacity of a ton of metal per hour, a brass furnace, twelve complete sets of molder's

tools, twelve benches, besides the ladles, flasks, clamps, core oven, pattern rack, and other equipment such as is used in practical foundry operation.

The blacksmith shop is equipped with fifteen down draft forges. With each forge there is a set of blacksmith tools. A power hammer is available for heavy work.

The machine shop contains seven lathes, one milling machine, one planer, one shaper, two drilling machines, one dry emery grinder, one wet emery grinder, one universal grinding machine, two sensitive drills, twelve vises for bench work in metal, an air compressor, some pneumatic tools, and a small punch press.

The tool room is equipped with a varied assortment of such tools and supplies as are used in the shops. In connection with the shops there is a wash-room containing lockers for the accommodation of the students.

There are two boiler-houses. One contains 50-H. P. Babcock and Wilcox water tube boiler and a No. 3 Dean steam pump. The other contains a 55-H. P. tubular boiler and a No. 3 Davidson steam pump.

The main engineering laboratory is equipped with steam engine and gas engine indicators, planimeters, steam guages, pyrometers, reducing motions, scales micrometers, tachometers, watermeters, etc. It contains a 40-H. P. Houston, Stanwood & Gamble cross compound, throttling engine, a 25-H. P. automatic cut-off high speed engine, a 10-H. P. Corliss engine, a 35-H. P. Buffalo Forge Company engine, a 35-H. P. Westinghouse compound engine, and a 4-H. P. Fairbanks-Morse gas engine. The above equipment is used in connection with the boilers, in experimental work in heat engineering.

For experimental work in connection with the study of analytical mechanics, there is a 100,000 pound Riehle testing machine, with an extensometer, besides a Flather dynamometer.

For the experimental work in electrical engineering, there are, in the main laboratory, a 10 K. W. d. c., Crocker-Wheeler dynamo, an 85 K. W. d. c Edison dynamo, a 9 K. W. d c. electric dynamo, a 35 K. W. d. c. electric motor, a K. W. d. c. dynamo, besides other small motors. There is a switch-board on which the necessary instruments are mounted. The switch-board is built so that, by means of plug connections, any generator may be applied to any load. Besides the switch-board instruments, there is a varied assortment of portable instruments, voltmeter, ammeters, and wattmeters.

In the auxiliary laboratory there is an electric blue printing machine a photometer, a small telephone switch-board, galvanometers, Wheatstone bridges, an assortment of coils for investigating alternating current phenomena, a small storage battery.

The equipment of the department, as a whole, is such that many interesting phases of engineering may be investigated. For instance, the telephone equipment, while not elaborate, is sufficient to give a clear insight into the operation of modern telephone systems. The aim of the depart-

ment is to train young men to be competent, efficient engineers, and the equipment is used with this end in view.

It is the custom to visit the power houses and telephone exchanges of Lexington and vicinity, so as to keep in touch with practical engineering.

### COURSE OF STUDY.

The practical work extends over a period of two years, and includes the experience in the wood-shop, machine-shop, foundry, and forge-shop. During this period the class-room work and drawing are preparatory to the theoretical studies taken up during the third and fourth years. The course in Mechanical Engineering, as administered at Kentucky State College, may be considered as being divided into three parts, as follows:

1. *Mechanical Engineering Proper.* Under this heading come the studies of steam engineering practice, the operation and design of gas engines and producers, and the operation and design of manufacturing machinery.

2. *Chemical Engineering.* This is intended especially for those who will go into the making of iron and steel, and involves study of the various methods of analysis of iron, steel, coals, fluxes, and refractory substances.

3. *Electrical Engineering.* This involves the study of the design and operation of electrical apparatus and machinery.

Of course the foregoing is a general classification. Each of the subjects mentioned permits of further subdivision, to suit the needs of the student.

### DEGREES.

The courses of study in Mechanical and Electrical Engineering all lead to the degree B. M. E. (Bachelor of Mechanical Engineering). The advanced degree, M. E. (Mechanical Engineer), may be obtained by a resident student in one year after taking the degree of B. M. E. from the State College of Kentucky, or any other institution of equal requirements, provided he has done the work assigned him satisfactorily, passed his examination, and presented an acceptable thesis.

A non-resident student may obtain the degree of M. E. three years after graduation, if he has been engaged in practical engineering work during that time, passes an examination, and presents an acceptable thesis. At least two years' notice must be given to the Faculty that post-graduate work is to be done, and the work must be approved by the Faculty.

## Curriculum.

### FRESHMAN YEAR.

*Technical Instruction.*—Twenty-six weeks, three hours per week. (*a*) Recitation on the forms of wood-working tools and the cutting and peculiarities of timber. (*b*) Lectures on the operation of the various forms of wood-working machinery. (*c*) Lectures on pattern-making, molding and casting.

*Mechanical and Free-hand Drawing.*—Twenty-six weeks, six hours per week, and ten weeks, ten hours per week. (*a*) This drawing includes free-hand sketches, drawing from copies and models, using parts of machines in the Mechanical Laboratories as models. (*b*) Free-hand lettering. (*c*) Exercises in tinting and shading. (*d*) Tracing. (*e*) Blue-printing.

*Shop-work.*—Thirty-six weeks, twelve hours per week. (*a*) Bench-work in wood, including exercises in the following operations: Planing, sawing, rabeting, plowing, notching, splicing, mortising, tenoning, dove-tailing, framing, paneling, and the general use of carpenters' tools. (*b*) Wood-turning, involving the various principles of lathe-work in wood. (*c*) Pattern-making, which gives the student experience in the construction of patterns for foundry work. (*d*) Foundry work, including the various operations of molding, core-making, and the melting of iron and brass.

*English*—Thirty-six weeks, five hours per week.

*Algebra*—Ten weeks, five hours per week.

*Solid Geometry*—Nine weeks, five hours per week.

*Trigonometry*—Thirteen weeks, five hours per week.

*Physics*—Twenty weeks, five hours per week.

### SOPHOMORE YEAR.

*Mechanical Drawing*—Sixteen weeks, four hours per week; sixteen weeks, five hours per week. (*a*) Drawing the parts of machines and complete machines to scale. (*b*) Isometric and Descriptive Geometry, problems. (*c*) Design of machine details.

*Shop-work*—Thirty-six weeks, twelve hours per week. (*a*) Exercises in iron and steel forging. (*b*) Exercises in vise-work in metal. (*c*) General machine work; including screw-cutting, drilling, planing, and the milling of iron, brass, and steel.

*Descriptive Geometry*—Nineteen weeks, five hours per week.

*Physical Laboratory*—Seventeen weeks, five hours per week.

*Analytical Geometry*—Thirty-two weeks, five hours per week.

*Chemistry*—Nineteen weeks, five hours per week.

*Surveying*—Nineteen weeks, three hours per week.

*Metalurgy*—Twelve weeks, six hours per week. The above includes the study of fuel and refractory substances, and the process employed in puddling iron and making steel.

*Calculus*—Ten weeks, five hours per week.

*Electricity and Magnetism.*—Nineteen weeks, five hours per week.

### JUNIOR YEAR.

*Kinematics*—Fifteen weeks, five hours per week. Under this head are studied the velocity ratios in various motions, construction of gears, cams, quick-return motions, and the manner of designing trains of mechanism.

*Mechanical Drawing*—Thirty-six weeks, ten hours per week. The work consists of: Kinematic Drawing, including spur, bevel, worm and spi-

ral gearing; Design of Shop Machines, such as lathes, planers, shapers, drills, etc., including an original design by each student of some shop machine complete, with all detail drawings.

*Chemical Laboratory*—Fifteen weeks, six hours per week.

*Analytical Mechanics*—Twenty weeks, five hours per week.

*Strength of Materials*—Fifteen weeks, five hours per week.

*Experimental Engineering Laboratory*—Ten weeks, six hours per week.

*Elements of Electrical Engineering*—Fifteen weeks, five hours per week.

*Graphic Statics*—Ten weeks, five hours per week.

*Calculus*—Twenty-two weeks, five hours per week.

*Electrodynamic Machinery*—Ten weeks, five hours per week.

*Theory of Machine Design*—Ten weeks, five hours per week.

*Dynamo and Motor Design*—Ten weeks, eight hours per week.

*Electrical Appliances*—Ten weeks, five hours per week.

### SENIOR YEAR.

*Thermodynamics*—Fifteen weeks, three hours per week. This work consists of a study of the laws of thermodynamics, thermal capacities, and the application of thermodynamics to the steam engine.

*Steam Boilers*—Ten weeks, five hours per week. A study of the various commercial steam boilers, consumption of fuel, incrustations, determining the horse-power of boilers, boiler tests, the design of boilers for efficiency and economy, and the methods of transmission.

*Valve Gearing*—Fifteen weeks, five hours per week. The study of various forms of standard engine valves and methods of designing.

*Hydrautics*—Fifteen weeks, two hours per week.

*Alternating Currents*—Seventeen weeks, five hours per week.

*Mechanical Drawing*—Seventeen weeks, ten hours per week. This consists in working out valve gear problems.

*Engine and Machine Designing*—Fifteen weeks, five hours per week. A study of the modern methods of designing engines, boilers and machines.

*Experimental Engineering*—Fifteen weeks, ten hours per week. This includes a study of the steam-engine indicator, making engine, boiler, and materials for construction tests, and experimental work in electrical engineering.

*Political Economy*—Ten weeks, five hours per week.

*Theory and Practice of Photography*—Ten weeks, five hours per week.

*Electrical Design*—Nineteen weeks, three hours per week.

*History*—Twenty weeks, five hours per week.

*Dynamometers and Measurement of Power*—Twelve weeks, five hours

*Thesis Work*—Nineteen weeks, twelve hours per week.

Every student, before he attains the degree of B. M. E., must present a satisfactory thesis on some new design of a machine, or an original investigation.

The greater part of the second and third terms of the Senior year is given to the preparation of this thesis. The subjects for theses are assigned to students by the Dean of the Mechanical and Electrical Engineering Faculty, and the completed theses are kept on file with the college records, that they may serve as a record for future investigators.

#### JUNIOR AND SENIOR INSPECTION TRIP.

Annual trips, for the purpose of inspecting manufacturing and power plants, are taken by the Junior and Senior Classes. The Juniors, for several years, have visited Cincinnati, Hamilton and Dayton. During the last three years the Seniors have visited Chicago and its vicinity on the annual trip.

During the Spring Term, four days are set apart for the Junior trip and six for the Senior. The experiences of these trips are considered to be among the most valuable of the engineer's collegiate life.

#### SUMMER SCHOOL OF MECHANIC ARTS.

The regular curriculum in Mechanical and Electrical Engineering has no elective course. In order to provide opportunity for instruction in them, a Summer School has been established, which continues in session ten weeks. In this school instruction is given in all the subjects taught in the regular course of Mechanical and Electrical Engineering, as well as in elective courses of the Mechanic Arts.

The Summer School is designed especially for technical students, locomotive engineers and firemen, stationary engineers, artisans and mechanics. Special attention is paid to courses in Mechanical Drawing, Machine Design and Shop-work.

## XII. DEPARTMENT OF ANATOMY AND PHYSIOLOGY.

DR. PRYOR.

The Department of Anatomy and Physiology occupies one half of the second floor of the Natural Science Building. The space assigned to this Department includes a large lecture and general recitation-room, an office, and a laboratory.

The lecture-room is provided with a Colt's Criterion Stereopticon with a microscopic attachment. Arrangements are made to darken the room for the use of the lantern. This method of giving illustrated lectures is extensively used. A large number of lantern slides have been purchased or made. These include all kinds of anatomical, physiological, histological and pathological subjects, and they have been selected in order to show not only human anatomy but sufficient comparatlve anatomy to illustrate the development and evolution of the organ or system.

This method of instruction is quite popular with students. It affords a detail not to be obtained from models or charts or from subjects for dissection.

The lecture and general recitation-room is perhaps the best equipped room for its purpose to be found in any institution of the South. It is well lighted and ventilated, is provided with the best opera chairs with arm rests, affording every convenience and facility for student and lecturer.

The office contains the nucleus of a library. It is the purpose of the head of this department to provide students with the latest and best books on Anatomy, Physiology, Hygiene, Histology, and Bacteriology.

The laboratory is provided with a Bausch and Lomb incubator, microscopes, microtomes, paraffin bath, etc. Tables are provided for individual students. Each table is equipped with the apparatus necessary for experimental work in Physiology. Students also have access to and use the kymograph, artificial circulation scheme (Porter's), capilary electrometer, artificial eye (Kühne's), heart-holder, orgograph, rheochord, plethysmograph, tambour, signal magnet, etc.

The Department is supplied with all kinds of models, such as an Auzoux papier-mache manikin; Auzoux's models of the eye in full and in section; models of the ear, larynx, side of the face, hand, etc.; skeletons in full and in section; complete disarticulated skeletons for the individual use of students; a spaced skull; a Thoma-Zeiss Hæmacytometer; a Dudgeon's and a Marey's Sphygmograph; charts of all kinds, microscopes, etc. Microscopic slides are exhibited, showing the process of karyokinesis.

The method of instruction is by lectures, demonstrations and recitations. Drawings are made on the blackboard in chalk by the instructor, and the student is required to copy them. They include drawings of the heart and of the great blood-vessels in colors; sections of the eye showing the connection of the cornea and sclerotic coat at the origin of the ciliary muscle, one turn of the cochlea giving the organ of Corti in full; the membranous abyrinth; a cross section of the spinal cord; a scheme illustrating the system of neurones, central and peripheral, both motor and sensory.

The student is required to take notes from lectures, to copy and preserve them for study and reference. The note books are inspected at intervals, correct spelling and neatness in preparing them being insisted on.

All students who take the course leading to the degree of B. S. are required to attend lectures two terms of twenty weeks, five hours qer week, during the Freshman year, and one term of fifteen weeks during the Sophomore year. The same amount of work is required of candidates for the degree of B. Ped. and B. Agr. Candidates for the degree of A. B. are required to attend during the first term of the Sophomore year. Two classes for ten weeks are organized at the beginning of the second term for the benefit of Normal students who take the studies leading to the County Certificate.

### COURSE PREPARATORY TO THE STUDY OF MEDICINE.

This course, leading to the degree of B. S., with Anatomy and Physiology as the major study, is arranged to suit students who intend to enter

upon a profession, and especially those who are to devote themselves to the study of medicine.

The studies of the Freshman and Sophomore years are identical with those of the other scientific courses, except that there is an additional course in Botany during the third term of the Sophomore year, and an additional course in Physics in the afternoon of that term. Students who take this course have the advantage of work in the X-rays.

The principal differentiation from the other scientific courses is found in the Junior and Senior years. The first term of the Junior is devoted to the following studies: Systematic Zoölogy, Osteology, French, and laboratory work in Chemistry; the sccond term to Organic Chemistry, Osteology, French. and laboratory work in Zoölogy; and the third term to Physical Chemistry, Osteology, French, and Physiological Chemistry. The first term of the Senior year is devoted to French, History, Logic, Geology, and laboratory work in Physiology; the second term to Entomology, History, Metaphysics, Physiology, and thesis work; and the third term, to Entomology, Political Economy, Moral Philosophy, Physiology, and Embryology.

*The Laboratory Course in Physiology*—Is required of Seniors during the first term in the afternoon from 2:30 to 4:30. The work begins with the central nervous system. The first exercise begins with the study of the normal frog; its posture when at rest; its movements when in water and on solids; compensatory movements, etc. A careful dissection of the frog's brain and drawings of it are made. Then follow experiments upon decerebrized frogs. Perfect cleanliness and aseptic surgical methods are observed as nearly as possible. Reflex action and inhibition of reflexes are studied with the pithed frog. The crayfish and earthworm are also used in the study of the central nervous system.

*Muscle*—The student must familiarize himself with the electrical apparatus necessary for the work that follows; nerve muscle preparations are made, the different kinds of stimuli are studied, graphic records are made with the kymograph, showing certain phenomena of muscular contraction, among them a single muscular contraction or twitch; the effect of load; repeated stimulation; summation of stimuli; superposition in tetanus, etc.

*Haemodynamics*—The artificial scheme used, which illustrates the mechanics of the circulation in the higher vertebrates, demonstrates arterial and venous pressure, and this is measured with mercury manometer. The scheme also shows the conversion of an intermittent stream into a continuous flow. Incompetence and stenosis of the mitral and aortic valves are demonstrated, and with the thistle tube and kymograph pulse-tracings are made that compare favorably with those made with the sphygmograph by members of the class. Abnormal cases are often included.

*Normal Haematology*—Clinical examinations of the blood are made, including the enumeration of the blood corpuscles with the Thoma-Zeiss haemacytometer; the estimation of haemoglobin with Fleischel's haemome-

ter; the staining and fixing of blood corpuscles; the reaction and specific gravity of blood, etc.

*The Special Senses*—The anatomy, gross and minute, of the eye and ear, and the physiology of these organs, are treated as fully as the time permits. During the year students dissect such mammals (dog, cat, and rabbit) as may be used to illustrate the lectures preceding and accompanying the practical work. Especial attention is given to the gross anatomy of the viscera, thoracic, abdominal and pelvic.

Every effort is made to stimulate and maintain interest throughout the the course.

The students who complete the four years' course will be credited with one year's work at many of the Medical Colleges belonging to the American Association of Medical Colleges. Credit is also given for other work done. To a prospective student of medicine the advantages of this course can hardly be estimated. The additional training in Botany, Physics, Zoölogy, Osteology, Embryology, Chemistry, Physiological Chemistry, and in experimental and laboratory work in Physiology, places him far in advance of those who have not pursued these studies.

As a prerequisite to entrance upon this course, students must have completed the Classical Course of the Academy, or its equivalent.

To those who are to become students of medicine, this Department offers inducements rarely enjoyed in educational institutions.

*Text-books:* Martin's Human Body, Stewart's Manual, Syllabus of the Professor's lectures.

*Books of Reference:* Gray's Anatomy, Gerrish's Anatomy, Shaefer's Physiology Hall's Physiology, American Text-Book, Loeb's Physiology of the Brain.

## XIV, XV, XVI. DEPARTMENTS OF GEOLOGY, ZOÖLOGY, AND ENTOMOLOGY.

PROFESSOR MILLER AND MISS MCCANN.

### Geology.

#### EQUIPMENT AND FACILITIES.

This Department occupies one-half of the second floor of the Natural Science Building.

The Geological Laboratory is fitted up with tables and chairs and contains the study-collection of fossils and minerals.

The Mineralogical Laboratory is arranged in its furnishings with special reference to its use as a mineral-testing laboratory.

The Geological Lecture Room, furnished with folding lecture-room seats, tables, lantern stands, sliding blackboard, wall screen, and means for quickly darkening the room, is admirably adapted to recitation and lecture uses.

The collections in Mineralogy and Palæontology are arranged and classified with special reference to their use in class instruction.

The Museum, occupying the entire third floor of the building, now contains the State Geological Survey Collection, a valuable addition to the instruction facilities of this Department.

As additional equipment may be mentioned the Department library of geological literature, consisting of Reports, both State and National, maps, charts, models, lantern slides, and photographic illustrations.

In addition to the facilities afforded by the in-door equipment, the situation of the College itself happens to be peculiarly favorable from a geological standpoint. Located as it is in the center of the Blue-grass Region, at the base of the Geological Series of the State, it affords logically the best starting-point for the student of Kentucky geology who would gain a clear comprehension of how the rock foundations of his State have been laid. Both for this reason, therefore, and because geology is pre-eminently an out-door study, the "Excursion" is made a prominent feature of the instruction in this Department. By the field work these excursions afford the student's ability to apply in-door knowledge previously acquired is put to the test, and his powers of making generalizations in the open air are exercised.

### BRANCHES OF STUDY.

The general order of succession in the geological studies is as follows: (1) Paleontology; (2) Mineralogy; (3) Advanced Geology. Besides these, in which what follows is intimately based upon what precedes, are two self-contained studies; (4) A Shorter Course in Geology, and (7) Economic Geology.

### I. PALEONTOLOGY.

SECOND TERM—Required of Juniors who elect as their major study Geology, Botany, Zoölogy, Anatomy and Physiology, or Pedagogy.

Lectures on the nature and zoölogical positions of different fossil groups are given, and the student is expected to become familiar with the fossils themselves by actual examination. Special attention is paid to fossils, common in Kentucky. The collections of the department are well suited for this purpose. The instruction is entirely by lectures and laboratory work.

### II. MINERALOGY.

THIRD TERM—This study follows Paleontology, and is required of the same students, with the addition of those who elect Agriculture as their major.

The object of the study is to render the students familiar with the composition and physical characters of those common minerals and rocks likely to be met with both in course of every-day observation and in geological pursuits. The instruction involves both laboratory and text-book work. Crosby's Tables for Determination is the book used.

### III. ADVANCED GEOLOGY.

FIRST TERM—Required of students who elect as their major study Geology, Botany, Zoölogy, or Pedagogy.

Candidates for A. B. may take this or course IV.

It is meant to be the culmination for those who have availed themselves of all the opportunities for the study of Geology offered in this Department. It is to be hoped that some of these students may be induced to go further, and either in their home localities or elsewhere make a beginning of doing original work. Kentucky, with its large amount of territory practically unexplored geologically, offers an especially fine field to young geologists.

*Text-book:* Norton's Elements of Geology.

### IV. SHORTER COURSE IN GEOLOGY.

FIRST TERM—For Seniors who are candidates for the degree of A. B. The only prerequisite for this course is the second term of Zoölogy.

*Text-book:* Brigham's Text-book of Geology.

### V. ECONOMIC GEOLOGY.

SECOND TERM—Required of students who elect as their major study Geology, Agriculture, Chemistry, Physics, Civil Engineering, or Mining Engineering.

As the name indicates, it is the practical or inorganic rather than the organic side of Geology that is here made prominent. Historical Geology is studied briefly and in outline. Fossils are considered important in so far as they serve to determine rocks, whereas in General and Biological Geology the reverse may be considered true. Structural Geology becomes relatively important, and Mineralogy and Lithology occupy a leading place. Some of the topics of economic importance treated are: Common Rocks and Vein-forming minerals; Origin of Ore Deposits; Mining Terms and Methods; Coal; Petroleum; Natural Gas and Asphaltums; Building Stone, Clay, and Cement; Geological Fertilizers; Relation of Geology to Agriculture; Relation of Geology to Engineering.

*Text-book:* Ries' Economic Geology, supplemented by lectures.

## Zoölogy.

### EQUIPMENT AND FACILITIES.

The Department of Zoölogy occupies two rooms on the first floor of the Natural History Building. These rooms are provided with tables and a special set of apparatus, including compound microscopes, for each student. Besides this there is a complete general equipment for all lines of zoölogical work, such as a full set of zoölogical charts, imported from Germany for use in the study of systematic Zoölogy; microtomes and paraffin baths for work in microscopy; a selection of type skeletons to illustrate osteology; alcoholic specimens of both marine and inland forms to illustrate general

Zoölogy, with duplicates for class dissections; and finally the Department is equipped with a library of standard zoölogical literature, including the leading periodicals devoted to the interests of biological science. Moreover, opportunities for collecting zoölogical material, as well as for studying the habits of living animals, are afforded by the "Excursions" mentioned above.

### BRANCHES OF STUDY.

These are five, enumerated as follows: (1) Systematic Zoölogy; (2) Laboratory Zoölogy ; (3) Osteology ; (4) Embryology; (4) Vertebrate Zoölogy.

### I. SYSTEMATIC ZOÖLOGY.

FIRST TERM—Required of students who elect as their major study Geology, Zoölogy, Botany, Agriculture, Chemistry, Pedagogy, Anatomy and Physiology, or Physics.

A general presentation of the subject is here attempted. The practical work is limited to that which can be satisfactorily accomplished in exercises of one hour each. Alternating with lectures on the different sub-kingdoms, classes and orders of animals, accompanied with some species determination by the student, a text-book, Arthur Thompson's Animal Life, is used to present to the class in a form suitable for discussion such interesting topics of Biology as Interrelation of Plants and Animals, the Struggle for Existence, Coloration of Animals, Social Life of Animals, Protoplasm, Origin of Life, Physiological Division of Labor, Animal Psychology, Principles of Embryology, The Past History of Animals, The Doctrine of Evolution, Heredity, Animal Life, and ours.

Pratt's Invertebrate Zoölogy is used as laboratory guide.

### II. LABORATORY ZOÖLOGY.

SECOND TERM—Required of those who elect as their major study Zoölogy, Geology, or Botany.

The work of this term consists largely of animal dissection, and it also involves an extensive use of the compound microscope. Students are taught not only how to examine under the microscope living organisms of small size, but also to prepare these and the tissues of higher animals as permanent mounts for microscopical study.

*Laboratory Text-book:* Pratt's Invertebrate Zoölogy, furnished to each student as a part of the equipment, for the use of which a small fee is charged.

### III. OSTEOLOGY.

FIRST TERM—Required of students who elect as their major study Zoölogy, Anatomy and Physiology, or Geology.

Five hours a week are given to the comparative study of the vertebrate skeleton—chiefly that of Mammalia.

*Text-book:* Flower's Osteology of the Mammalia.

### IV. EMBRYOLOGY.

THIRD TERM—Required of Juniors who elect as their major study Zoölogy, Anatomy and Physiology, or Agriculture.

Five hours a week are assigned to this study. Instruction consists of lectures upon the general facts and principles of Embryology, accompanied by practical work on the embryonic development of such vertebrates as the frog and chick.

*Text-book:* Balfour's Elements of Embryology.

### V. VERTEBRATE ZOÖLOGY.

SECOND TERM—Required of Sophomores in the Agriculture and Juniors in the Anatomy and Physiology major courses.

Five afternoons a week are devoted to Laboratory work on type vertebrates.

*Text-book:* Pratt's Vertebrate Zoology.

## Entomology.

Required of Juniors in the Agricultural and of Seniors in the Scientific Courses, in which Botany and Zoölogy are major studies.

### I. ELEMENTARY MORPHOLOGY OF INSECTS, GENERAL ENTOMOLOGY.

SECOND TERM—The course in Elementary Morphology of Insects is a laboratory course designed to present to the student the essentials of insects anatomy. Comstock & Kellogg's Elements of Insect Anatomy is used as a laboratory guide. General Entomology is a parallel course comprising a study of the characteristics of the orders, sub-orders, and important families of insects.

*Text-book:* Comstock's Manual for the Study of Insects.

### II. SYSTEMATIC ENTOMOLOGY, ECONOMIC ENTOMOLOGY.

THIRD TERM—The purpose of the course Economic Entomology is to familiarize the student with the habits and life-histories of the more important noxious insects and with the methods of combating them. In Elementary Systematic Entomology practice is given in classification of insects. In connection with this course much attention is given to Entomotaxy.

## XVII. DEPARTMENT OF PHYSICS.

PROFESSOR PENCE, ASSISTANT WEBB.

### EQUIPMENT AND FACILITIES.

The Department of Physics occupies three rooms in the basement of the main College building. The principal lecture-room is eighteen feet by forty-four feet. The laboratory is twenty feet by twenty-four feet. The third room is twenty feet by twenty-four feet, and is used for both lecture

and laboratory work. These rooms are furnished with seats, cases for apparatus, working tables, electricity, gas, water, and drainage. One table is on piers. There is also a dark room.

The equipment of apparatus for experimental and demonstrative work is worth about $3,000. Some of the better pieces are a Geissler mercury air pump, delicate balances, a *Societe Genevoise* spectrometer, a Michelson interferometer, fine Wheatstone bridges and resistance sets, galvanometers, magnetometer, voltameters, voltmeters, ammeters, a motor-generator with normal output of twenty amperes under twenty-five volts, a storage battery with normal output of ten amperes under twenty-five volts, a fine X-ray outfit with a fifteen-inch spark induction coil from Queen & Co. There is also a good library, which contains some of the best standard works on Physics, and some of the best current scientific literature.

## Course of Instruction.

### FRESHMAN.

SECOND AND THIRD TERMS—Text-book: Twenty weeks, one hour daily. For students in Civil, Mechanical, and Mining Engineering.

### SOPHOMORE.

FIRST TERM—Text-book: Fifteen weeks, one hour daily, For students in Pedagogy, Agriculture, and in the Science courses.

Laboratory: Fifteen weeks, one hour daily. Elementary experiments in the Mechanics of Solids, Liquids, and Gases, and in Heat. For students in Civil, Mechanical, and Mining Engineering

Mechanics: Fifteen weeks, one hour daily. For students in Civil Engineering.

SECOND TERM—Laboratory: Ten weeks, one and one-half hours daily. (1) Experiments in Sound, Light, Electricity, and Magnetism. For students in Mining Engineering. (2) Experiments in the Mechanics of Solids, Liquids and Gases, and in Heat. For students in Pedagogy, and in the Science courses.

SECOND AND THIRD TERMS—Text-book: Twenty weeks, one hour daily. For students in the Arts courses.

Text-book and Lectures: Twenty weeks, one hour daily. Electricity and Magnetism. For students in Civil, Mechanical, and Mining Engineering.

THIRD TERM—Laboratory: Ten weeks, one and one-half hours daily. Experiments in Sound, Light, Electricity and Magnetism. For students whose major study is Anatomy and Physiology, Pedagogy, Chemistry, or Physics.

### JUNIOR.

FIRST TERM—Text-book and lectures: Fifteen weeks, one hour daily. Electricity and Magnetism.*

SECOND TERM—Text-book and lectures: Ten weeks, one hour daily. Heat.*

SECOND AND THIRD TERMS—Laboratory: Twenty weeks, one and one-half hours daily. Physical Measurements in Mechanics, Sound and Heat.*

THIRD TERM—Text-book and lectures: Ten weeks, one hour daily. Light*.

SENIOR.

FIRST TERM—Laboratory: Fifteen weeks, one and one-half hours daily. Physical Measurements in Light, Electricity and Magnetism*.

SECOND AND THIRD TERMS—Thesis*.

*For students whose major study is Physics.

## VIII. DEPARTMENT OF MINING ENGINEERING.

PROFESSOR NORWOOD,

State Inspector of Mines and State Geologist.

The establishment of this School was authorized by an Act of the General Assembly, Session of 1898. The course is laid out with the design of affording the student a thoroughly good foundation for professional work in Mining, Metallurgy, Assaying and Geology, and of so preparing him that he may readily and quickly assimilate that knowledge of the details of practice which may be gained only through experience. The course is made as "practical" as the limitations of college instruction will permit. Effort is made to acquaint the student not only with the methods of mining and mine management in particular, but to give him such instruction in mechanical and civil engineering as may satisfy the needs of the modern mining engineer. The schedule of studies for the first two years, while distinctive in some minor respects, upon the whole is closely similar to those followed during the same years in the Schools of Mechanical Engineering and of Civil Engineering. Actual differentiation occurs at the entrance of the Junior year.

The instruction in the special theme of Mining (including both coal and metal), which begins with the Junior year, is laid out along a continuous line, each subject being introductory to that which follows, and is given by lectures, supplemented by text-books and special reading. The School is equipped with an excellent electric light stereopticon, and a reflectoscope, with a large number of special slides for illustrating lectures; in addition thereto many charts, photographs, and "blue prints," illustrating mining methods and mining machinery, have been procured. The equipment for lecture-room demonstrations also includes a working model of a mine hoist, with safety-catch for cages; examples of mining tools a Vajen-Bader head protector for use in exploring mines filled with noxious gases (by courtesy of the Vajen-Bader Company); safety lamps of various styles, and apparatus for measuring ventilation. For the more elaborate study of mine gases, the School has the use of the apparatus provided for the office of the State

Inspector of Mines. A general statement of the subjects discussed under the head of Mining is given under the appropriate years following.

Opportunity for practice in mine surveying is afforded at the coal mines and at the vein mines (lead, zinc, and spar) within short distance from Lexington. The mine maps filed by the various companies with the State Inspector of Mines are at the service of the student for study and comparison. The instruments provided for the study of mine surveying include a transit, a level, plummet lamps, and a "hanging compass" and accessories (for "string survey" of pitching deposits).

In Chemistry three terms are required, the first two being in the Sophomore year. The course for the first term consists of lectures and recitations on general chemistry, together with laboratory work. The second term is devoted to qualitative analysis. Quantitative analysis occupies the third term, and is given in the Junior year.

In Metallurgy and Ore Dressing four terms of work are required. The first term is given to a general study of the metallurgy of nine or ten metals, including iron, copper, zinc, tin, lead, nickel, cobalt, silver and gold. The instruction in general metallurgy is given by the Professor of Chemistry, in the second term of the Junior year. The work of the second term, which also occurs in the Junior year, includes Assaying and study in the laboratory of certain processes for the extraction of silver and gold, such as the amalgamation, chlorination and cyanide processes. For the present, this work will be carried on under the supervision of the Professor of Mining The third and fourth terms, after the completion of work begun in the second term, are devoted to the study of the various processes of separating and concentrating ores and other useful minerals, and includes work in the Mining Laboratery.

The Assay and Metallurgical Laboratory is provided with several gasoline assay furnaces; a coke (or charcoal) furnace; crushing, grinding and sampling apparatus, etc.; an Abbe "Double Trojan" Ball Mill; a Dicker Rotating Machine for "barrel chlorination," and apparatus for studying the cyanide and amalgamation processes. A Calorimeter for the study of fuels and a special furnace for testing clays are also at the command of the School.

It is intended that the Mining Laboratory shall not only serve the purpose of instruction, but that it shall prove helpful, as a testing laboratory, to those engaged in mining operations in the coal, lead, zinc and spar districts of the State. The present equipment includes a standard, full-sized Wilfley Concentrating Table; a Three-stamp Mill, made by the Allis-Chalmers Company (to whom the School is indebted for generous treatment); a Hallet Hand Jig; a Vezin Jig; a Munroe Laboratory Slime Table; a Munroe Laboratory Classifier; a Dings Electro-Magnetic Separator; a Campbell Coal-washer; a complete model of the St. Bernard Mining Company's coal-washery; and a complete ventilating fan and fan-house. The last three were provided through the generosity of Mr. John B. Atkinson, President

of the St. Bernard Mining Company, Earlington, Ky. The fan has been so installed that various problems relating to mine ventilation may readily be studied. The machines are operated by electric motor and gasoline engine. Additional apparatus will be provided from time to time.

Instruction in applied electricity, given by the Professor of Electrical Engineering, extends through the Junior year into the Senior year. A full term is given to lectures, in connection with design, on electrical appliances with especial reference to their use in mining operations, including electric haulage, hoisting and pumping machinery, trolley lines, intracommunicating telephones, power generators, installation of electric motors, winding of armatures, etc. A number of afternoons are given to work in the Steam and Electric Laboratory in the study of the care and management of steam and electric machinery and gasoline engines.

The State College is exceptionally well situated with reference to the practical study of both coal and metal mining (including lead, zinc and iron), and for the study of metallurgical practice in certain lincs, there being within the State numerous coal and metal mines, and several iron and steel metallurgical establishments, within easy reach of Lexington. Practical work in concentrating lead ores may be studied at the Gratz and the Kissinger mines, in near-by counties. At the Gratz mine the plant includes crushers, jigs, a Huntington mill, and Woodbury concentrators. At the Kissinger mine the plant includes crusher, rolls, Huntington mill, Woodbury concentrators, and a smelter. The latter mine may be reached by trolley line and a short drive. Elaborate lead and zinc concentrating plants may be studied in the western part of the State. Coal washing and coking may be studied at Ashland, where a Robinson washer is used, and at Earlington, where a Campbell plant is in operation. The copper mines of Tennessee, the iron mines of Virginia, Alabama and Tennessee, and the gold mining regions of Alabama and Georgia, with their accompanying metallurgical plants, may be reached within twenty-four hours or less of travel.

## Course of Study.

The schedule on a succeeding page exhibits the studies that lead to the degree of B E. M.

The courses are as follows:

### FRESHMAN YEAR.

First Term—English, Plane Trigonometry, Woodwork (Tools and Machinery), Drawing (Lettering, etc.), Shop-Work (Bench and Lathe).

Second Term—English, Solid Geometry, Physics, Drawing.

Third Term—English, Higher Algebra, Physics, Mechanical Drawing, Physical Laboratory.

### SOPHOMORE YEAR.

Firt Term—Analytical Geometry, Chemistry, Physical Laboratory, Surveying, Geology, Iron and Steel Forging.

SECOND TERM—Analytical Geometry, Electricity and Magnetism, Calculus, Descriptive Geometry, Qualitative Analysis, Descriptive Geometric Problems.

THIRD TERM—Analytical Geometry, Calculus, Electricity and Magnetism, Descriptive Geometry, Surveying and Mapping.

JUNIOR YEAR.

*Electrical Engineering*, first term; Professor Wilson.
*Calculus concluded*, first term; Professor White.
*Strength of Materials*, first term; Professor Frankel.
*Surveying and Mapping*, first term; Professor Rowe.
*Metallurgy*, second term; Professor Tuttle.
*Special Metallurgical Processes and Assaying*, third term; Professor Norwood (temporarily).
*Quantitative Analysis*, second term; Professor Tuttle.
*Analytical Mechanics*, second and third terms; Professor Frankel.
*Dynamo-electric Machinery*, second term; Professor Wilson.
*Mineralogy*, *Blow-piping*, third term; Professor Miller.

MINING 1. INTRODUCTORY, EXCAVATING, QUARRYING.—(*a*) Objects and definitions: Connection with auxiliary sciences; coal and metal mines compared; mineral rights, etc. (*b*) Excavation in soft ground and in rock: Tools and methods; steam excavators and dredges; by water, etc. (*c*) Explosives and blasting: Kinds and effects of explosives; theory and practice of blasting; placing, charging, and firing holes under various conditions; precautions in blasting; substitutes for explosives. (*d*) Quarrying: Plants and methods for various sorts of rock; underground quarries.

MINING 2. BORING, SHAFT-SINKING, SHAFT-BORING.—(*a*) Boring Methods with auger, with rods, and with rope; rotary boring, boring tools: casing; recovering lost tools; drive piping. (*b*) Shaft-sinking: General principles. Methods in soft-ground and in rock. Hoisting, ventilating, and draining during sinking. Timbering, walling, tubbing, and linings for special cases. Sinking linings in watery ground and in quicksand. (*c*) Shaft-boring: General observations. Various methods described and compared.

MINING 3. PROSPECTING, DEVELOPMENT, METHODS OF WORKING.—(*a*) Mineral deposits; Geological considerations. Relations of ore deposits to country rock; influence upon topography; connection between topographic forms due to geological structure and the existence of veins. General broad classification of mineral deposits, lodes, veins, beds and placers; regular and irregular. Elements defining the nature and mode of occurence of a deposit. Effect of variability and disturbances of stratified and crystalline rocks. Irregularities and disturbances of beds and veins. Solution of problems. (*b*) Prospecting: Systematic methods.. Value of geology. Tracing outcrops; hillside and stream float; old and existing works; traditions; trenching and flooding; bore-holes, adit levels, pits, cross-cuts. Tracing lodes; effects of cross-courses as to heaves and contents; panning. Dipping needle. (*e*) Exploration and Development: Preliminary questions as to commercial feasibility of working particular deposits. Choice of explora-

tory methods—shaft, adit, slope. Location of openings with reference to development. Laying out the workings, and order of exploration. Driving tunnels, drifts, gangways, slopes, levels, cross-cuts. Advancing by single breast and by benches. Maintaining alignment—"sights." Accidents. Upraises—vertical and inclined. Winzes—methods of sinking and raising. (*d*) Methods of Working and of Supporting Excavation: General rules as to choice of mode of working away, etc. Breaking ground (1) in coal mining, and (2) in metal mining. Support of excavations (1) by pillars of mineral, (2) by timbering. (3) by caving and filling. Methods of working applicable to deposits according to their origin, thickness, inclination and character. Coal, Vein, and Mass mining. Open cuts and stream workings. Hydraulic mining. Dredging.

### SENIOR YEAR.

*History and Political Economy*, President Patterson.
*Hydraulics*, first term; Professor Rowe.
*Steam Engine*, *Compressed Air*, first term; Professor Anderson.
*Economic Geology*, second term; Professor Miller.
*Alternating Currents and Power Plants*, second term; Professor Wilson.
*Mine Plant Design*. (Drawing )
*Thesis work.*

MINING 4. ORE AND COAL DRESSING, MILLING, COAL-WASHING.—General principles and theories. Picking, crushing; theory of mineral separations; sizing, classification, jigging, concentration and concentrators. Coal-washing. Gold and silver milling; stamp and other mills. Amalgamation: Theory and practice; care of mill plates; losses of mercury, etc. Pan amalgamation. "Patent" substitutes for plate amalgamation. Pan assays for free-milling ores, etc.

MINING 5. ORE DRESSING LABORATORY.

MINING 6. MINE SURVEYING.—General principles of underground surveying. Carrying meridian into mine, etc.; locating lines of work; construction of mine maps and sections; plumbing shafts, surveying bore-holes; "string" surveying, etc.

MINING 7. EXTRACTION, VENTILATION, ETC.—Extraction and removal of material: Mine and surface haulage roads; rope and other means of haulage. Hoisting. Drainage: Controlling and removing water; dams, drainage levels, air lift. Ventilation: Theoretical considerations; mine gases; methods of ventilation; distribution of air supply. Illumination. Descent and ascent. Accidents: Causes; places; explosions; safeguards; rescue and relief.

MINING 8. MINE PLANT.—Machinery and appliances for mining, hoisting, draining, ventilating, hauling, screening, loading, storing, etc.

MINING 9. EXAMINATION AND VALUATION OF MINES, ETC.—Methods and precautions in examination and valuation. "Salting," concealing exhausted workings, etc. Relation of capital invested to actual dividends. Mine management. Cost sheets.

MINING 10. MINE VISITATION.—Opportunity for visiting mines under the guidance of the Dean, or of an Assistant Inspector of Mines, will be given at the close of the term.

The larger part of the third term is devoted to thesis work, subjects for which are assigned by the Dean.

## DEGREES.

The State College confers the degrees of—

Bachelor of Science (B. S.),
Bachelor of Arts (A. B.),
Bachelor of Science in Agriculture (B. S. Agr.),
Bachelor of Civil Engineering (B. C. E.),
Bachelor of Mechanical Engineering (B. M. E.),
Bachelor of Mining Engineering (B. E. M.),
Bachelor of Science in Pedagogy (B. S. Ped.),
Bachelor of Arts in Pedagogy (A. B Ped.),
Master of Science (M. S.),
Master of Arts (A. M.),
Master of Science in Agriculture (M. S. Agr.),
Master of Civil Engineering (C. E.),
Master of Mechanical Engineering (M. E ),
Master of Mining Engineering (E. M.),

### CONDITIONS OF GRADUATION.

To attain the Bachelor's degree the applicant must have been a student of the College at least one session, and he must have past the examinations on all of the courses of study leading to the desired degree.

To attain the Master's degree the applicant must have attained the Bachelor's; he must have pursued, for at least one session in this College or two sessions elsewhere, a major study selected by himself and one or two minor studies assigned him by the Faculty; and finally, he must at least thirty days before the end of the session, have satisfied the Faculty that he is duly proficient in his studies, and have presented to the College an acceptable thesis on his major study or on some part thereof.

If the applicant be an alumnus of another institution of learning, he must satisfy the Faculty that he has completed a course of study for his first degree equivalent to that prescribed in this College for the same degree; and he must matriculate and study under the direction of the Faculty at least one session.

A student who completes a part of any course in a satisfactory manner may, in attestation of the fact, receive a Certificate of Proficiency.

## COURSES GROUPED FOR DEGREES.

### I. COURSES FOR THE DEGREE OF B. S.

| | |
|---|---|
| History, Political Economy, and Metaphysics, | President Patterson. |
| Botany, | Professor Mathews. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Captain Burtt. |
| Chemistry, | Professor Tuttle. |
| Mathematics and Astronomy, | Professor White, Dean. |
| The French and German Languages, | Professor Zembrod. |
| The Latin Language, | Professor Neville. |
| Anatomy and Physiology, | Professor Pryor. |
| Geology and Zoölogy, | Professor Miller. |
| Physics, | Professor Pence. |
| Drawing, | Mr. Beaumont. |

For the degree of M. S., Chemistry, Zoölogy, Botany, Geology, Anatomy and Physiology, Mathematics or Physics may be selected as major study; and minor studies will be assigned from the studies mentioned above, or from English, French and German, History, Political Economy and Metaphysics.

After September 1, 1907, in place of the several undergraduate scientific courses of former catalogues, a single scientific course will be offered, embracing a system of elective studies. In this course, the studies of the Freshman year will be the same for all students. In the Sophomore year a limited number of electives will be permitted, and a wider range of choice in the last two years. The subjects required of all students are indicated by *Italics* in the following schedule.

Before the beginning of the Sophomore year each student registered for this course will select his major study, i. e., the study in which he is to do his most advanced work. He will then consult the head of the department in which his major study is taught, who will arrange his curriculum as a definite schedule covering all the studies of his collegiate course. This schedule must then be submitted to the Dean of the course for his approval and signature.

In special cases, by permission of the Dean, students may, in their Junior and Senior years, take as electives certain subjects of the Classical, Normal or Agricultural course.

Credit to the amount of four units (briefly, four credits) will be recorded, upon the satisfactory completion, during the First Term, of a study requiring one hour's classwork or two hours' laboratory work five times a week. Work, such as drawing, requiring no preparation at home will be classed with laboratory work. For similar work done during the Second or the Third Term three credits will be recorded.

For every absence from class, for tardiness, inattention to the subject taught, or lack of preparation, the Term credit may be reduced one-tenth of a unit, in the discretion of the instructor. On the other hand, the Term credit of a student who has a class standing of 14 or more, may be raised one unit or less for assigned collateral work done by the student as satisfactorily as his class-work.

No student will receive more than 22 credits for a First Term's work, or more than 17 for a Second or Third Term's work. Seniors may receive credit not to exceed 6 units per Term during their last two Terms for special daily advanced work involving written reports. These are to be presented in the form of a thesis whenever the Senior does his special work without constant supervision.

Forty-four units of credit per collegiate year are the minimum require ment for graduation.

Students who, by absence from whatever cause or who otherwise, reduce their credit below 44 may be allowed by the Dean to make up the deficiency

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S.

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN | 1 | *English.* | *Trigonometry.* | *German.* | | *Drill.* | *Drawing.* |
| | 2 | *English.* | *Solid Geom.* | *German.* | *Physiology.* | *Drill.* | *Drawing.* |
| | 3 | *English.* | *Higher Algebra.* | *German.* | *Physiology.* | *Drill.* | Elem. Botany. |
| SOPHOMORE. | 1 | Analyt. Geom. | *German.* | *Physics.* | Physiology.<br>English. | *Drill.* | *Botany.* |
| | 2 | Analyt. Geom.<br>Latin. | *German.* | *Botany.*<br>Calculus. | *Chemistry.* | *Drill.* | Physic. Lab.<br>Zoology. |
| | 3 | Analyt. Geom.<br>Mineralogy.<br>Latin. | *German.* | Botany.<br>Calculus. | *Chemistry.* | *Drill.* | Physic. Lab.<br>Zoology. |
| SENIOR AND JUNIOR. | 1 | *Zoology.*<br>Electricity.<br>Magnetism.<br>Theor. Chemistry.<br>French. | *History.*<br>Osteology.<br>Plant. Histology.<br>English.<br>Entomology. | *Logic.*<br>Econ. Botany.<br>Hum. Osteology.<br>Entomology. | *French.*<br>Chem. Reading.<br>Spher. Trigonom.<br>Astronomy.<br>Geology. | | *Chem. Lab.*<br>Geology.<br>Physics.<br>Physical Lab. |
| | 2 | Theor. Chemistry.<br>Quant. Analysis.<br>Paleontology.<br>Entomology.<br>Mechan. Drawing.<br>Physics (Heat).<br>Organ. Chemistry. | *History.*<br>English.<br>Surveying.<br>Entomology. | *Metaphysics.*<br>Entomology.<br>Hum. Osteology | *French.*<br>Econ. Geology.<br>Thesis. | | Chem. Lab.<br>Chemical<br>Research.<br>Zoologic. Lab.<br>Physics.<br>Thesis. |
| | 3 | Mineralogy.<br>Quant. Analysis.<br>Entomology.<br>Physics (Light).<br>Physical<br>Chemistry. | *Pol. Economy.*<br>English.<br>Plant Physiology.<br>Entomology. | *Mor. Philosophy.*<br>Theor. Chem.<br>Syst. Botany.<br>Econ. Botany.<br>Entomology.<br>Hum. Osteology. | *French.*<br>Chem. Reading.<br>Astronomy.<br>Thesis. | | Thesis.<br>Physical Chem.<br>Embryology. |

## II. COURSES FOR THE DEGREE OF A. B.

| | |
|---|---|
| History, Political Economy and Metaphysics, | President Patterson. |
| Botany, | Professor Mathews. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Captain Burtt. |
| Chemistry, | Professor Tuttle. |
| Mathematics and Astronomy, | Professor White. |
| The French and German Languages, | Professor Zembrod. |
| The Greek and Latin Languages, | Professor Neville, Dean. |
| | Ass't Professor Jones. |
| Physiology, | Professor Pryor. |
| Geology and Zoölogy, | Professor Miller. |
| Physics, | Professor Pence. |

For the degree of A. M., Greek, Latin, English, History, Mental Science, French, German, or Gothic may be selected as major study; and minor studies may be assigned from Greek, Latin, English, Mathematics History, Metaphysics, Political Economy, French and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF A. B. (MAJOR, GREEK AND LATIN).

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | Greek. German. | Latin. | Drill. | |
| | 2 | English. | Solid Geometry. | Greek. German. | Latin. | Drill. | |
| | 3 | English. | Algebra. | Greek. German. | Latin. | Drill. | |
| SOPHOMORE. | 1 | Latin. | Greek. German. | Physiology. | English. | Drill. | |
| | 2 | Latin. | Greek. German. | Physics. | Chemistry. | Drill. | |
| | 3 | Latin. | Greek. German | Physics. | Chemistry. | Drill. | |
| JUNIOR. | 1 | Analyt. Geom. | English. | Greek. Latin. | French. | Drill. | |
| | 2 | Analyt. Geom. | English. | Greek. Latin. | French. | Drill. | |
| | 3 | Analyt. Geom. | English. | Greek. Latin. | French. | Drill. | Botany. |
| SENIOR. | 1 | Latin. French. | History. | Logic. | Geology. | Drill. | Geology. |
| | 2 | Latin. French. | History. | Metaphysics. | Spher Trigon. Astronomy. | Drill.. | Zoölogy. |
| | 3 | Latin. French. | Polit. Economy. | Mor. Philos. | Astronomy. | Drill. | |

## SCHEDULE OE STUDIES FOR THE DEGREE OF A. B. (MAJOR, ENGLISH.)

| YEAR. | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | *English.* | Trigonometry. | Greek. German. | Latin. | Drill. | |
| | 2 | *English.* | Solid Geom. | Greek. German. | Latin. | Drill. | |
| | 3 | *English.* | Algebra. | Greek. German. | Latin. | Drill. | |
| SOPHOMORE. | 1 | Latin. | Greek. German. | Physiology. | *English.* | Drill. | |
| | 2 | Latin. | Greek. German. | Physics. | Chemistry. | Drill. | |
| | 3 | Latsn. | Greek. German, | Physics. | Chemistry. | Drill. | Botany. |
| JUNIOR. | 1 | Analyt. Geom. | *English.* | Greek. Latin. | French. | Drill. | *Anglo-Saxon.* |
| | 2 | Analyt. Geom (Optional.) | *English.* | Greek. Latin. | French. | Drill. | Zoölogy. Anglo-Saxon. |
| | 3 | Analyt. Geom. (Optional.) | *English.* | Greek. Latin. | French. | Drill. | *Anglo-Saxon.* |
| SENIOR. | 1 | French or Latin. Sanskrit or Hebrew. | History. | Logic. | Geology. | Drill. | *Anglo-Saxon.* |
| | 2 | French or Latin. Sanskrit or Hebrew. | History. | Metaphysics. | *Comp. Philol.* | Drill. | *Anglo-Saxon.* |
| | 3 | French or Latin. Sanskrit or Hebrew. | Polit. Econ. | Moral Philos. | *Comp. Philol.* | Drill. | *Thesis.* |

### III. COURSES FOR THE DEGREE OF B. S. IN PEDAGOGY.

| | |
|---|---|
| History, Political Economy, and Metaphysics, | President Patterson. |
| Botany, | Professor Mathews. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Captain Burtt. |
| Chemistry, | Professor Tuttle. |
| Mathematics, | Professor J. G. White. |
| The French and German Languages, | Professor Zembrod. |
| Pedagogy and Psychology, | Professor M. White, Dean |
| | Ass't Professor Fleshman |
| Physiology, | Professor Pryor. |
| Geology and Zoölogy, | Professor Miller. |
| Physics, | Professor Pence. |

For the degree of M. S. in Pedagogy, Chemistry, Geology, Zoölogy, Botany, Mathematics or Philosophy may be selected as major study; and minor studies will be assigned by the Faculty. An acceptable thesis on some division of the major subject is required.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. IN PEDAGOGY.

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | | Drawing. |
| | 2 | English. | Solid Geometry. | German. | Physiology. | Ed. Psychology. |
| | 3 | English. | Algebra. | German. | Physiology. | El. Botany. |
| SOPHOMORE. | 1 | Analytics. | German. | Physics. | Physiology or English. | Gen. Botany. |
| | 2 | Analytics. | German. | Gen Botany. | Chemistry. | Gen. Pedagogy. |
| | 3 | Analytics. | German. | Adv. Psychology. | Chemistry. | Ed. Method. |
| JUNIOR. | 1 | Zoölogy. | English. | Logic. | French. | Chemistry. |
| | 2 | Paleontology. | English. | Calculus. | French. | Zoölogy. |
| | 3 | Mineralogy. | English. | Calculus. | French. | History of Education. |
| SENIOR. | 1 | French. | History. | Calculus. | Geology. | Observation Work. City School Supervision. |
| | 2 | French. | History. | Metaphysics. | Sph. Trigonometry. Astronomy. | Professional Reading. |
| | 3 | French. | Polit. Economy. | Mor. Philosophy. | Astronomy. | History of Philosophy. |

The completion of this course carries with it a life certificate to teach in any school in Kentucky without further examinatien.

### IV. COURSES FOR THE DEGREE OF A. B. IN PEDAGOGY.

| | |
|---|---|
| History, Political Economy, and Metaphysics, ....... | President Patterson. |
| Botany, ........................................ | Professor Mathews. |
| The English Language and Literature, ............. | Professor Mackenzie. |
| Military Science, ................................ | Captain Burtt. |
| Chemistry, ....................................... | Professor Tuttle. |
| Mathematics, ..................................... | Professor J. G. White. |
| The German Language, ............................. | Professor Zembrod. |
| The Latin Language, .............................. | Professor Neville. |
| Pedagogy and Psychology, ......................... | Prof. M. White, Dean. |
| | Ass't Prof. Fleshman. |
| Physiology, ...................................... | Professor Pryor. |
| Geology and Zoölogy, ............................. | Professor Miller. |
| Physics, ......................................... | Professor Pence. |

For the degree of A. M. in Pedagogy, English, Latin, Mathematics, or Philosophy may be selected as major study; and minor studies will be assigned by the Faculty. An acceptable thesis on some division of the major subject is required.

## SCHEDULE OF STUDIES FOR THE DEGREE OF A. B. IN PEDAGOGY.

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|
| FRESHMAN. | 1 | English. | Trigonometry. | German. | Latin. | Drawing. |
| | 2 | English. | Sol. Geometry, | German | Latin. | Ed. Pscychology. |
| | 3 | English. | Algebra. | German. | Latin. | El. Botany. |
| SOPHOMORE. | 1 | Latin. | German. | Physics. | English. | Gen. Botany. |
| | 2 | Latin. | German. | Gen. Botany. | Physiology. | Gen. Pedagogy. |
| | 3 | Latin. | German. | Adv. Psychology. | Physiology. | Ed. Method. |
| JUNIOR. | 1 | Analytics | English. | Latin | Physiology. | History of Education. |
| | 2 | Analytics. | English. | Latin. | Chemistry. | Zoölogy. |
| | 3 | Analytics. | English. | Latin. | Chemistry. | Observation Work City School Supervision. |
| SENIOR. | 1 | Prof'l Reading. | History. | Logic. | Geology. | Chemistry. |
| | 2 | Prof'l Reading | History. | Metaphysics. | Sph Trigonometry. Astronomy. | Prof'l Reading. |
| | 3 | Prof'l Reading. | Polit. Economy. | Mor. Philosophy. | Astronomy. | History of Philosophy. |

The completion of this course carries with it a life certificate to teach in any school in Kentucky without further examination.

### V. COURSES FOR THE DEGREE OF B. C. E.

| | |
|---|---|
| History and Political Economy, | President Patterson. |
| Civil Engineering, | Professor Rowe, Dean. |
| | Ass't Professor Carrel. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Captain Burtt. |
| Mathematics and Astronomy, | Professor White, Dean. |
| Chemistry, | Professor Tuttle. |
| Geology, | Professor Miller. |
| Physics, | Professor Pence. |
| Analytical Mechanics, | Professor Frankel. |
| Electrical Engineering, | Professor Wilson. |
| Descriptive Geometry, | Ass't Professor Nollau. |
| Mechanical Drawing, | Ass't Ham. |

For the degree of C. E., Railways, Structures, Water Power, Municipal or Mining Engineering may be selected as major study; and minor studies will be assigned from Mathematics, Astronomy, Mechanical Engineering, Geology, Chemistry, Physics, Political Economy, English, French and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. C. E.

| YEAR | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR | AFTERNOON. | SATURDAY. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | English. | Trigonometry. | Strength of Materials. | Mechanical Drawing. | Drill. | Drawing. | Drawing. |
| | English. | Solid Geometry. | Physics. | Elementary Mechanics. | Drill. | Structural Drawing. | Structural Drawing. |
| | English. | Algebra. | Physics. | Surveying. | Drill. | Drawing. Field Work. | Drawing. Field Work. |
| SOPHOMORE. | Analytical Geometry. | Higher Surveying. | Chemistry. | Struct. Design. Mill Building. | Drill. | Field Work. Physics Lab. Chemistry. | Field Work. Top. Surveying. |
| | Analytical Geometry. | Electricity. Magnetism. | Descriptive Geometry. | Descriptive Geometry. | Drill. | Chemistry. | Chemistry. |
| | Analytical Geometry. | Electricity. Magnetism. | Calculus. | Descriptive Geometry. | Drill. | Chemistry. Field Work. | Roof Design. |
| JUNIOR. | Design. | Strength of Materials. | Calculus. | Elec. Dynamo Machinery. Bridge Stresses. | Drill. | Design. | Design. |
| | Bridge Stresses. | Analytical Mechanics. | Calculus. | Spher. Trigonom. Astronomy. | Drill. | Materials Lab. | Bridge Design. |
| | Graphic Statics. | Graphic Statics. | Analytical Mechanics. | R. R. Engineering. | Drill. | R. R. Engineering. Field Work. | R. R. Engineering. Field Work. |
| SENIOR. | Hydraulic Geodesy. | History. | Bridge Design. | Geodesy. Masonry. | Drill. | Geod. Surveying. Cement Lab. | Field Work. |
| | Hydraulic Design. | History. | San. Engineering. Water Supply. | Economic Geology. | Drill. | Sewer Design. | Design. |
| | Roads, Streets, and Pavements. | Pol. Economy. | Reinforced Concrete. | Tunneling. | Drill. | Thesis. | Thesis. |

### VI COURSES FOR THE DEGREE OF B. M. E.

| | |
|---|---|
| History and Political Economy, | President Patterson. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Captain Burtt. |
| Chemistry, | Professor Tuttle. |
| Mathematics, | Professor White. |
| Mechanical Engineering, | Prof. Anderson, Dean. |
| Machine Design, | Professor Frankel. |
| Electrical Engineering, | Professor Wilson. |
| Physics, | Professor Pence. |
| Shopwork and Drawing, | Instructor Nollau. |
| Experimental Engineering, | Professor Anderson. |
| Surveying, Graphic Statics, and Hydraulics, | Professor Lowe. |

For the Degree of M. E., Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, or Machine Designing may be selected as major study; and minor studies will be assigned from Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, Machine Designing, Mechanical Laboratory Work, Mathematics, Physics, Chemistry, Mental Science, Political Science, English and Modern Languages.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. M. E.

| YEAR | FIRST HOUR. | SECOND HOUR. | THIRD HOUR | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON, | SATURDAY. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | English. | Trigonometry. | Model and Object Drawing | Woodwork, Machine Design | Drill. | ShopWoodwork Bench, Lathe. | ShopWoodwork Bench, Lathe. |
| | English. | Solid Geometry | Physics. | Pattern-Making Foundry Draw. | Drill. | Pattern-Making Foundry. | Pattern-Making |
| | English. | Algebra. | Physics. | Mech. Drawing. | Drill. | Pattern-Making Foundry. | Pattern-Making |
| SOPHOMORE. | Analyt. Geom. | Surveying. | Chemistry. | Physical Lab. | Drill. | Iron and Steel Forging. | Iron and Steel Forging. |
| | Analyt. Geom | Electricity. Magnetism. | Metallurgy. | Descr. Geom. | Drill. | Machine Work | Descrip. Geom. Drawing. |
| | Analyt. Geom. | Electricity. Magnetism. | Calculus. | Descr. Geom. | Drill. | Machine Work Surveying. | Descrip. Geom. Drawing. |
| JUNIOR. | Elementary Electricity. | Mechanics of Materials. | Calculus. | Kinematics Theory of Machine Design. | Drill. | Kinemat. Draw. Machine Design | Kinemat. Draw. |
| | Electrical Design. | Analytic Mechanics | Calculus. | Dyn. Electric. Machinery. | Drill. | Chemical Laboratory. | Machine Design |
| | Dynamo and Motor Design. | Graph. Statics | Analytic Mechanics. | Dyn. Elec. Mach, Theory of Machine Design. | Drill. | Machine Design Electric. Lab. | Machine Design Electric Lab. |
| SENIOR. | Thermodynam. Hydraulics. | History. | Altern Currents Dyna. Mot. Des. | Valve Gears. Steam Boilers. | Library. | Valve Design. Electrical Lab. | Steam Lab. |
| | Altern. Currents Power Plant. | History. | Steam Engine. Design. | Dynamometers Pumps. | Library. | Valve Design. Dyna. Mot. Des. | Steam Lab. |
| | Thesis. | Polit. Econ. | Photography. | Thesis. | Library. | Thesis. | Thesis. |

## VII. COURSES FOR THE DEGREE OF B. S. IN AGRICULTURE.

| | |
|---|---|
| History, Political Economy, and Metaphysics, | President Patterson. |
| Agriculture, Horticulture, and Botany, | Professor Mathews, Dean. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Captain Burtt. |
| Chemistry, | Professor Tuttle. |
| Mathematics and Astronomy, | Professor White. |
| The French and German Languages, | Professor Zembrod. |
| Entomology, | Instructor McCann. |
| Anatomy and Physiology, | Professor Pryor. |
| Geology and Zoölogy, | Professor Miller. |
| Physics, | Professor Pence. |
| Agriculture and Animal Husbandry, | Professor Hooper. |
| Horticulture and Botany, | Instructor Gilbert. |

For the degree of M. S. in Agriculture, any subject included under General Agriculture, Animal Husbandry, Agricultural Chemistry, Horticulture, Economic Entomology, or Economic Botany may be selected as major study; and minor studies will be assigned from the studies named above, or from Zoölogy, Geology, Botany, or the modern languages.

Beginning with the collegiate year 1907-1908, a system of elective studies is arranged for the Agricultural course in harmony with the plan adopted for the Scientific course.

At the beginning of the Sophomore year or at the latest by the beginning of the Junior year, each student will be assigned by conference with the Dean, a schedule of studies covering the remainder of his college course. He will not be permitted to select his studies indiscriminately from those shown in the schedule, but will be required to take such a series of subjects as may naturally be co-ordinated into a consistent whole.

It is expected that for some time a majority of the students will be assigned a schedule not differing greatly from the fixed course published in the catalogue for several years past.

Credit to the amount of four units, (briefly, four credits) will be recorded in recognition af the satisfactory completion, during the First Term of a study involving attendance upon one hour of class work or one period of laboratory work (two hours) five times a week. Work requiring no preparation at home, (drawing, etc.) will be classed with laboratory work. For similar work done during the Second and the Third Term, three credits will be recorded.

The Term credit is reduced for absence, tardiness, occupation foreign to the subject taught, or lack af preparation, by 0.1 unit for every absence or equivalent loss of instruction, in the discretion of the instructor.

No student will receive more than 22 credits foa a First Term's work or more than 17 for a Second or Third Term's work.

Seniors may receive credit not to exceed 6 units per Term during their last two Terms for daily occupation with special advanced work involving written reports. The latter are to be presented in the form of a thesis whenever tne senior is permitted to do his special work without constant supervision.

Forty-four units of credit per collegiate year constitute the minimum requirement for graduation.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. IN AGRICULTURE.

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|---|
| FRESHMAN | 1 | *English.* | *Trigonometry.* | *German.* | | Drill. | *Drawing.* |
| | 2 | *English.* | *Solid Geometry* | *German.* | *Physiology.* | Drill. | *Drawing.* |
| | 3 | *English.* | *Higher Algebra.* | *German.* | *Physiology.* | Drill. | Elem. Botany 3. |
| SOPHOMORE. | 1 | *Zo-ology.* | *German.* | *Physics.* | English. Physiology. | Drill. | *Botany.* |
| | 2 | *Principles of Plant Culture.* 2 | *German.* | *Botany.* | *Chemistry.* | Drill. | *Zo-ology.* |
| | 3 | *Principles of Plant Culture.* 2 | *German.* | *Botany.* | *Chemistry.* | Drill. | Embryology 2. Surveying 2. |
| SENIOR AND JUNIOR. | 1 | *Soils, Tillage and Drainage.* 3 *Pomology* 2 Study of Breeds 2. | *Plant Histology.* *History.* | *Economic Botany.* *Logic.* | French. Veterinary Science 3. Dairying 2. Olericulture. | | *Chem. Lab.* Study of Breeds 1. Dairying 1. Pomology 2 |
| | 2 | Entomology. Animal Feeding. Advanced Entomology. | *Forage. Crops.* 2 *Pomology.* 3 *History.* | *Cereals.* 3 *Plant Breeding.* *Metaphysics.* | French. Thesis. Economic Geology. | | *Cereals* 1 Woodworking 3 *Horticulture* 2 Agric. Chemistry. Thesis. |
| | 3 | Pomology. Breeding and Management. Advanced Entomology. Mineralogy. | *Plant Physiology.* *Political Economy.* | *Economic Botany.* *Moral Philosophy.* | French Olericulture. 2 *Home Grounds.* 1 *Farm Buildings.* 2 | | Agric. Chemistry. Horticulture 2. Photography 1. Thesis. Farm Maehinery. 2 |

Subjects in Italics are required of all students. Figures denote exercises per week. Other subjects involve a daily exercise.

### VIII. COURSES FOR THE DEGREE OF B. E. M.

| | |
|---|---|
| History and Political Economy, | President Patterson. |
| Mining Engineering; Ore Dressing, | Professor Norwood, Dean. |
| The English Language and Literature, | Professor Mackenzie. |
| Military Science, | Captain Burtt. |
| Mathematics, | Professor White. |
| Surveying and Hydraulics, | Professor Rowe. |
| Mechanical Engineering, | Professor Anderson. |
| Geology and Mineralogy, | Professor Miller. |
| Chemistry and Metallurgy, | Professor Tuttle. |
| Physics, | Professor Pence. |
| Analytical Mechanics; Strength of Materials, | Professor Frankel. |
| Electrical Engineering, | Professor Wilson. |
| Assaying; Metallurgical Experiments, | Professor Norwood. |
| Descriptive Geometry, | Ass't Professor Davis. |
| Shopwork and Drawing, | Instructor Nollau. |
| | Assistant Ham. |

For the degree of E. M., Metallurgy, Ore Dressing, Milling, Coal Mining, Mine Engineering, Mine Plant, Mine Development, or Deep Mining, may be selected as major study; and minor studies may be assigned from Civil Engineering, Mechanical Engineering, Electrical Engineering, Geology, Chemistry, Physics, Mathematics, Political Economy, English, French and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. E. M.

| YEAR | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | FIFTH HOUR. | AFTERNOON, | SATURDAY. |
|---|---|---|---|---|---|---|---|
| FRESHMAN. | English. | Plane Trigon. | Drawing. | Woodwork, Mech. Drawing | Drill. | ShopWoodwork Bench, Lathe. | ShopWoodwork Bench, Lathe. |
| | English. | Solid Geometry | Physics. | Mech. Drawing | Drill. | Drawing. | Drawing. |
| | English. | Algebra. | Physics | Mech. Drawing | Drill. | Drawing. Physical Lab. | Drawing. |
| SOPHOMORE. | Analyt. Geom. | Surveying. | Chemistry. | Geology. | Drill. | Physical Lab. Chemical Lab. | Iron and Steel Forging. |
| | Analyt. Geom | Electricity. Magnetism. | Calculus, | Descr. Geom. | Drill. | Qual. Analysis. | Descrip. Geom. Drawing. |
| | Analyt. Geom. | Electricity. Magnetism. | Calculus. | Descr. Geom. | Drill. | Surveying Mapping | Surveying. Mapping. |
| JUNIOR. | Electric Engineering. | Mechanics of Materials | Calculus. | Mining 1, 2. | Drill. | | Surveying. Mapping. |
| | Mining 3. | Analytic Mechanics. | Metallurgy. | Dyn. Electric. Machinery. | Drill. | Quant. Analysis | |
| | Mineralogy. | Mining 3. | Analytic Mechanics | Electrical Appliances. | Drill. | Assaying. Met. Process. | Assaying. |
| SENIOR. | Hydraulics. Steam Engine. Compressed Air. | History. | Mining 7. | Steam Boilers. | Drill. | Mining 4. Mining 5. | Mine Survey 6. |
| | Altern. Currents Power Plant. | History. | Mining 7. Mining 8. | Econ. Geology. | Drill. | Mining 4, 5. | Mine Plant Design. |
| | Mine Plant Design. | Polit. Econ. | Mining 8. Mining 9. Mining 10. | Design. Thesis. | Drill. | Design. Thesis. | Thesis. |

## THE NORMAL SCHOOL.

MILFORD WHITE,

PRINCIPAL.

JAMES THOMAS COTTON NOE,

ARTHUR CARY FLESHMAN,

JOSEPH WILLIAM PRYOR,

MORTIMER RICHARD LAMBERT,

WELLINGTON PATRICK,

ASSISTANTS.

The Normal Department of The State College of Kentucky was established by the General Assembly of Kentucky in 1880, and, according to the charter, was designed to qualify teachers for the public schools and other schools of this Commonwealth. During its existence it has done much to accomplish the purpose for which it was established, but it has recently taken on renewed energy and renewed zeal in the very important work of training teachers. It offers three courses corresponding to the three classes of certificates named in the School Law, viz.: State Diploma, State Certificate, and County Certificate.

THE STATE DIPLOMA COURSE is made up of all the common school subjects and, in addition, Higher Arithmetic, Algebra, Plane Geometry, Elementary Physics, Elementary Latin, English and American Literature, and Psychology. The State Diploma issued by this College is a life certificate to teach in any of the public schools of Kentucky.

THE STATE CERTIFICATE COURSE comprises, besides the common school branches, the advanced subjects of Higher Arithmetic, Algebra, English, and American Literature, and Psychology. The State Certificate issued by this College is valid for two years in all parts of the State.

THE COUNTY CERTIFICATE COURSE is made up of the common school branches in which applicants for county certificates must be examined. In this course, as in all the others of this Department, thoroughness is insisted upon. The work done in this course serves as a foundation for all higher work as well as a preparation for teaching; it is therefore doubly important that it be well done.

GENERAL PEDAGOGY—THEORY AND PRACTICE—constitutes a special feature of each course throughout each term of the year. This class is a purely professional one, in which all questions pertaining to the organization, management, and teaching of elementary schools are discussed fully. Observation work in the model school will from this time forward constitute an important part of this work.

OTHER BRANCHES not required by law in any of the above courses are offered to students of this Department and are taken with great profit by many. Among such subjects offered are Domestic Science, Free-hand Drawing, and Nature Study. These subjects are growing in popularity every term.

FULL CREDIT FOR WORK done in this Department is given by all the other departments of the College, Those who complete the State Diploma Course are admitted without further examination to the Freshman year of the course leading to the degree of Bachelor of Arts in Pedagogy or to equal standing in the course leading to the degree of Bachelor of Science in Pedagogy.

CITY EXAMINATIONS are provided for in the several courses above named. Many city school boards in the State accept the State Certificate issued by this Department. In other cases, a course preparatory to a special examination can be made up out of the regular courses described in the preceding paragraphs.

COUNTY SUPERINTENDENTS AND EXAMINERS. Although the Normal School has not heretofore had proper facilities for especially fitting County Superintendents and County Examiners for their distinctive work, yet fifteen per cent. of the present County Superintendents in the State have been prepared here for their examination for eligibility, and for the more successful discharge of their official duties. Very many County Examiners have also had their preparation in the Normal School.

It is intended to offer in the session of 1907-'08, and thereafter, special courses for those who desire to prepare for service as County Superintendents. The courses will comprise, in addition to the required academic studies, special instruction in Psychology, General Pedagogy, and in School Law.

## TEXT-BOOKS.

Ray's Higher Arithmetic, Wentworth's Higher Algebra, Beman & Smith's Geometry, Whitney & Lockwood's Grammar, Cairns' Introduction to Rhetoric, Tappan's England's and America's Literature, Montgomery's History, Natural Advanced Geography, Wright's Civil Government, Martin's Human Body, Gage's Elements of Physics, Pearson's Essentials of Latin, Tompkin's Philosophy of Teaching, and Halleck's Psychology.

## FREE SCHOLARSHIPS.

Each County Superintendent of Schools in Kentucky is authorized by law to appoint each year four teachers, or persons who wish to prepare for teaching, to the Normal Department of The State College. These appointments must be made between July 1st and December 31st in order to be valid. Appointees pay no tuition nor fees of any kind to the College and get rooms, fuel, and light, in dormitories free. *Do not fail to see your Superintendent at the proper time and secure an appointment.*

## EXPENSES.

The necessary expenses of an appointee need not exceed the following for five months:

| | |
|---|---|
| Tuition and other fees | $00.00 |
| Room rent, fuel, and light | 00.00 |
| Board, 20 weeks at $2.00 to $3.00 per week | $40,00- 60.00 |
| Books, about | 6.00 |
| Laundry, about | 8.00 |
| Total | $54.00-$74.00 |

## MODEL SCHOOL.

In September, 1907, a Model School will be organized in the new Normal School Building and will henceforth constitute a very important adjunct to the Normal School. An expert teacher will be in charge of each room and a high grade of *model teaching* will be observed daily by the students of the Normal School. The value of such training to prospective teachers can not be overestimated.

## TEACHERS' CERTIFICATES.

By act of the General Assembly approved March 21, 1906,

1. A Bachelor of Pedagogy of The State College is authorized, without certificate, to teach in the public schools of the State during life, unless he or she shall cease to teach for five consecutive years.

2. The Trustees of the College may also by certificate authorize students to teach, if they have completed a course of study in the Normal Department of the College equivalent to that required by the State Board of Examiners for a State Diploma.

3. The Trustees of the College may also by certificate authorize students to teach during two years, if they have completed a course of study in the Normal Department equivalent to that required by the State Board of Examiners for a State Certificate.

4. Teachers authorized by certificate to teach in the public schools of the State, if they attend the Summer School of the Normal Department of the State College four weeks or more, are not required to attend any Teachers' Institute during that school year.

## CALENDAR.

The First Term begins Monday, September 9, 1907.

The Second Term begins Thursday, January 2, 1908.

The Third Term begins Monday March 16, 1908.

## SCHEDULE FOR THE STATE DIPLOMA.

| Term. | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. |
|---|---|---|---|---|---|
| 1 | Latin. | Pedagogy. | Physics. | Algebra. | Drill. |
| 2 | Literature. | Psychology. | Higher Arithmetic. | Plane Geometry. | Drill. |
| 3 | Literature. | Algebra. | Higher Arithmetic. | Plane Geometry. | Drill. |

## SCHEDULE FOR THE STATE CERTIFICATE.

| Term | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. |
|---|---|---|---|---|---|
| 1 | Literature. | Pedagogy. | Higher Arithmetic. | Algebra. | Drill. |
| 2 | Literature. | Psychology. | Higher Arithmetic. | Algebra. | Drill. |

## SCHEDULE FOR THE COUNTY CERTIFICATE.

| Term | First Hour. | Second Hour. | Third Hour. | Fourth Hour. | Fifth Hour. |
|---|---|---|---|---|---|
| 1 | Grammar. | Arithmetic. | U. S. History. Physiology. | Geography. | Drill. |
| 2 | Grammar. Civics. | Arithmetic. Pedagogy. | Geography. Physiology. | Composition. | Drill. |
| 3 | Grammar. Composition. | Arithmetic. Geography. | Civics. Physiology. Pedagogy. | U. S. History. | Drill. |

# SCHOOL OF PHYSICAL EDUCATION.

## I. DEPARTMENT FOR YOUNG WOMEN.

MRS. FLORENCE OFFUTT STOUT,
*Director.*

Upon the completion of a well equipped gymnasium in January 1902, the Department of Physical Education for Women was organized under the present Director. The head of this Department is one of three women in the Commonwealth who studied Gymnastics as a Science. She holds a diploma from the New Haven Normal School of Gymnastics. Mrs. Stout is a graduate of the Girls' High School at Louisville and studied her specialty at the University of Chicago and Yale University.

### DEPARTMENTAL AIMS.

The aims of Physical Education are hygienic and educational: 1st. To stimulate the functioning of all bodily organs, and correct defects of the body external. 2nd. To develope the mental faculties of attention, discrimination, judgment, re-action time and self-control. 3rd. To develop character by the creation of high ideals.

### GYMNASTICS.

A German gymnastic lesson is composed of four parts: Military Tactics, Free Gymnastics, Apparatus Work, Artistic Gymnastics or Gilbert Dancing.

Students are required to do two hours' work each week in the gymnasium. Physical Education is compulsory for all young women except Seniors, and as part of the curriculum is graded as other studies. Pupils must have an examination of heart and lungs by the College physician, Dr. Pryor, and an anthropometric examination by the Director before entering for work.

### SWIMMING.

The swimming school for women is the only one of the kind in the South and it was organized two years ago. It opens after the Annual Gymnastic Tournament in April, and is remarkably popular. Swimming is the best exercise for perfecting health after warm weather begins.

The system taught is that of Max Schwartz of Yale, and after five or six lessons in the pool the pupils have caught the art of the breast-stroke, with correct breathing.

The pupil who makes an annual average of 13.5 and upwards may enter the class in May, if she so elects. Young women who learned to swim last spring will be taught advanced forms. Each lesson lasts for half an hour and is given to groups of six. All pupils are drilled in resuscitation of drowning persons, after the manner of the U. S. Life-saving Crews.

### BASKET-BALL.

Social games like basket-ball have a definite purpose in Physical Education. Players require quickness of thought, judgment, and self-control under excitement. They learn to sacrifice self for the sake of the team as a whole. Gymnastic training has given our young women such suppleness and endurance that their fame is more than local.

## II. DEPARTMENT FOR YOUNG MEN.

W. WALTER H. MUSTAINE,

*Director.*

H. H. DOWNING,

J. S. CROSTHWAITE,

T. B. SHORT,

*Assistants.*

Orandum est ut sit mens sana in corpore sano.—*Juvenal.*

The objects sought in this school are: 1. Health of body and mind through physical exercise. 2. The development of strength and graceful movement. 3. The prevention and correction of physical deformities. 4. The correction of functional disorders. 5. The fortification of the body against bad hereditary tendencies.

Every student is carefully examined and the proper exercise prescribed.

### COURSES OF EXERCISE.

FIRST YEAR—1. Swedish gymnastics. 2. Simple movements with dumb-bells. 3. Practice with wands. 4. Exercises with Indian clubs. 5. Work with elementary apparatus. 6. Light work on running-track. 7. Games.

SECOND YEAR—1. Free gymnastics. 2. More advanced co-ordinations with Indian clubs. 3. Apparatus work. 4. Rythmical leg movements. 5. Work on running track. 6. Advanced movements with dumb-bells, combined with leg movements. 7. Games.

THIRD YEAR—1. Advanced Indian club drill. 2. Advanced apparatus work. 3. Advanced co-ordinating leg movements. 4. Barbell drill for the entire body.

Two lessons a week throughout the courses are required of all students. Students are promoted according to merit.

The work of this school is done in the Gymnasium, which is supplied with all needed appliances, including lockers, baths, and a swimming-pool.

During the second and third years lectures are delivered on the laws of health, on pride of physique, on the neglect of health. Ten lectures are delivered to Normal students on physical education, corrective gymnastics for public school children, physical training as viewed by the physiologist, the psychologist and the sociologist.

# SCHOOL OF DOMESTIC SCIENCE.

MISS ISABELLA W. MARSHALL,
*Instructor.*

This school was organized December 12, 1905, and on February 1, 1906, instruction began.

### COURSE OF INSTRUCTION.

FIRST AND SECOND TERMS.—A course in Practical Cookery, embracing instruction—

1. On the nature, nutritive constituents, and relative values of foods.
2. On the amount of food required in health, and on the influence of various conditions upon the amount required.
3. On the different kinds of food:
   a. Animal food, including meats, fish, extracts, jellies, milk, cheese and eggs.
   b. Vegetable food, including bread and cereals.
   c. Leavening agents, including baking powder, yeasts, etc.
   d. Seasoning, including spices and condiments.
   e. The mineral constituents of food.
   f. Beverages, coffee, tea, cocoa, etc.

THIRD TERM.—A course of lectures is given on food production and manufacturers; on the making of dietaries, and on the actual preparation of meals by the students; and calculations are make of the dietetic value of foods used in these meals.

A prerequisite for any of the courses given is a knowledge of Elementary Chemistry.

In the Third Term, special classes are arranged for Normal students, and an abridgement of the instruction of the First and Second Terms is provided for them. A special class also is instructed in fancy cooking, embracing the preparation of soups, entrees, salads, desserts and the like.

The work in this school is thoroughly practical, and it is specially designed to prepare students to teach the subjects involved in the several courses, and to impart to all a knowledge of household management.

All students of the school are required to attend class three times a week, the classes being arranged to suit students with or without other classes in the afternoon. Two classes are held on Monday, Wednesday and Thursday; one from 2:30 to 4; the other, from 4:30 to 5:45.

Two commodious rooms will be provided for this school in the third story of the fine new Normal building now rapidly nearing completion; a room for practical work, equipped with modern individual gas ranges and aluminium cooking utensils, and a large and attractive lecture-room.

The importance of the work done in the School of Domestic Science cannot be overestimated; it embraces what every woman and, if possible, every man should know, for on the knowledge there to be acquired depend health, strength, happiness, length of days.

# LECTURES IN ENGLISH LITERATURE.

MISS ELIZABETH SHELBY KINKEAD,

*Lecturer.*

The course of instruction by means of weekly lectures in English literature was established by the action of the Board of Trustees in June, 1903, and the present lecturer was appointed. The work is of an interpretative and critical rather than of a technical nature, and therefore does not infringe upon that offered in the regular department of English. The object of the course is the elucidation of the principles of literature as related to life. Lectures are delivered solely upon specimens of English literature that may be termed classic, such writings, however, being selected as are not emphasized in the average text-book course, but with which persons of culture are familiar. Thus the student who goes out from the class has had opportunity to become somewhat acquainted with certain models of literature, through the medium of formulated criticism, and by means of recitation by the lecturer of the more beautiful passages of the composition discussed. In addition, therefore, to the mere intellectual value of such instruction, is the possible gain of that polish and enlightenment of spirit which is derived from contact with what is fine and delicate. In the lectures an attempt is made to inspire the student and to quicken in him the power of imagination which is necessary to success in every calling in life—just as necessary to the success of the engineer and the scientist as to that of the author and the professional man. It is through ideas, and not through mere knowledge of facts, or through technical training alone, that all great achievements are accomplished. The facts and the technical training are absolutely necessary, as a matter of course, but they are only the tools with which ideas work; and the best means of arousing ideas in an undeveloped mind is through the presentation of the exalted thoughts and inspiring records of literature.

The lectures are delivered every Wednesday morning at ten o'clock in the Senior lecture room of Mechanical Hall, and attendance upon the course is compulsory upon the members of the Senior class. It is required that every member of the class shall take notes upon the lectures and prepare at each examination time a paper illustrating the principles that have been explained during the term.

# THE ACADEMY.

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[In the order of appointment.]

WALTER KENNEDY PATTERSON,
PRINCIPAL.

ALBERT NEWLON WHITLOCK,
KNOX JAMESON,
JOHN LESLIE PURDOM,
ALFRED GAY MCGREGOR,
ASSISTANTS.

# COURSE OF STUDY.

FIRST YEAR.—Arithmetic, Wells' Academic; Algebra, Wells' Essentials to Chapter 17; English Grammar, Patterson's advanced; Latin Grammar, Moore's Elements; D'Ooge's Easy Latin.

SECOND YEAR.—Algebra, Wells' Higher to Chapter 28; Plane Geometry, Beman and Smith; Rhetoric, Genung's Outlines; Synonyms, Crabb; Latin Grammar, continued; twelve lives of Nepos, or an equivalent; four books of Cæsar, Daniel's New Latin Composition; Greek Grammar, White's Beginner's; General History, Myers.

THIRD YEAR.—Solid Geometry, Beman and Smith; Physics, Gage's Elements; Physical Geography, Davis' Elementary; Selections from Ovid—2,500 lines—with instruction in scanning, eight orations of Cicero; Greek Grammar continued; Xenophon's Anabasis—four books; Greek Prose Composition, Pearson; six books of the Iliad; German, Becker's Elements; French Grammar, Fraser and Squair's, Part I; French Reader, Rambeau's Elementary.

## COURSE IN ENGLISH READING.

FIRST YEAR.—Coleridge's Ancient Mariner; Milton's L'Allegro, Il Penseroso, Comus and Lycidas. In Class.

Scott's Ivanhoe; Scott's Lady of the Lake. Parallel.

SECOND YEAR.—Macaulay's Essay on Addison; Macaulay's Life of Johnson; Burke's Speech on Conciliation with the American Colonies; Shakespeare's Julius Cæsar. In Class.

Shakespeare's Merchant of Venice; Shakespeare's Macbeth; Tennyson's Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur. Parallel.

THIRD YEAR.—Addison's Sir Roger de Coverley Papers; George Eliot's Silas Marner; Lowell's Vision of Sir Launfal; Irving's Life of Goldsmith. Parallel.

## SCHEDULE OF STUDIES IN THE ACADEMY.

| YEAR | TERM | FIRST HOUR. | SECOND HOUR. | THIRD HOUR. | FOURTH HOUR. | AFTERNOON. |
|---|---|---|---|---|---|---|
| FIRST | 1 | Eng. Grammar. | Latin Gram. | Arithmetic. | Algebra. | |
| | 2 | Eng. Grammar. Composition. | Latin Gram. | Arithmetic. | Algebra. | |
| SECOND. | 1 | Rhetoric. Synonyms. | Algebra. | Nepos. | Plane Geom. | History or Greek Gram. |
| | 2 | Rhetoric. Composition. | Algebra. | Cæsar. | Plane Geom. | History or Greek Gram. |
| THIRD. | 1 | Physics. | German. | Solid Geom. | Ovid. | French or Greek Reader. |
| | 2 | Physics. | German. | Phys. Geog. | Cicero. | French or Anabasis. |

The Academy is under the immediate direction and management of the Principal and four Assistants.

The students are subject to the same rules and regulations as the students of the College. The attendance at the College is required only during the hours of recitation and other prescribed College exercises, the preparation of their lessons being made elsewhere.

The course of study in the Academy is provided for those who enter directly from the common schools, and is intended to supply the necessary training intermediate between the Freshman class of the College and the course of study prescribed by the State Board of Education for the common schools.

Every applicant, to be admitted to the Academy, is required to pass a satisfactory examination in Spelling, Reading, Writing, Geography, History of the United States, English Grammar, and Arithmetic.

County appointees must present Certificates of Appointment, made on actual examination held in pursuance of *law* by a County Board of Examiners, duly appointed for that purpose by the County Superintendent.

Applicants from the graded schools of the State must present certificates from their respective School Boards, setting forth that they have completed with credit the eighth-grade studies.

Other applicants must present certificates from their County Superintendent, or from the Principal of their High School, setting forth that they have completed the common school course prescribed by the State Board of Education.

Those who enter at any other time than the beginning of the year will be required to pass a satisfactory examination on the work already gone over by the classes they propose to enter.

Students matriculating in the Academy will be required to pursue its prescribed course of study, and will not be permitted to take any work outside of this course except on the recommendation of the Principal.

### ENTRANCE EXAMINATIONS

Will be held as follows: Thursday, September 5, 1907, on English Grammar, Rhetoric and Greek Grammar; Friday, September 6, on Political and Descriptive Geography, United States History, Latin Grammar and second year Algebra; Saturday, September 7, on Arithmetic, Physical Geography, General History and second-year Latin; Monday, September 9, first-year Algebra, Geometry, and second-year Greek.

For the benefit of those other than county appointees, who desire to know the character of the examination which applicants for admission will be required to pass, the following examination papers are submitted as a sample. It is not to be understood that these are the questions on which applicants will be examined, but that they indicate the minimum attainments necessary to enter the Academy of the College. Those who expect to enter more advanced classes will be required to pass an examination on all that the class which they propose to enter has passed over.

### I. ARITHMETIC

Find the greatest common divisor and the least common multiple of 899 and 961.

$$\text{Simplify } 2\tfrac{1}{4} \times \frac{10\frac{3}{4} - 4\frac{11}{12}}{6\frac{3}{16} \times 7\frac{2}{3}} \div \frac{3\frac{5}{11}}{1\frac{2}{5} + 9\frac{1}{11}}$$

Find the number of bushels that will fill a bin 8.5 feet long, 4.5 feet wide, 3.5 feet deep.

The longitude of Rome is 12° 27′ 14″ east; the longitude of Chicago is 87° 35′ west; find the difference in time between the two places.

What will be the cost of plastering the walls and ceiling of a room 24 feet 4 inches long, 20 feet wide and 12 feet 6 inches high, at 27 cents per square yard, if 20 square yards be deducted for doors, windows, and base boards?

If a train at the rate of $\frac{5}{13}$ of a mile per minute takes $3\frac{1}{4}$ hours to reach a station, how ong will it take at the rate of $\frac{7}{15}$ of a mile per minute?

A and B. can do a piece of work in $2\frac{1}{2}$ days, and A and C in $3\frac{1}{3}$, B and C in $4\frac{1}{4}$ days. Required the time in which all three working together can do the work, and in which each can do the work alone.

A farmer sowed 5 bushels, 1 peck, 1 quart of seed, and harvested from it 103 bushels, 3 pecks, 5 quarts. How much did he raise from a bushel of seed?

Reduce 9 square chains, 11.25 square rods, to the decimal of an acre.

If a bar of iron $3\frac{1}{3}$ feet long, 3 inches wide, $2\frac{3}{4}$ inches thick weighs 93 pounds, what will be the weight of a bar $3\frac{2}{3}$ feet long, 4 inches wide, and $2\frac{1}{2}$ inches thick?

### II. ENGLISH GRAMMAR.

Name, define, and give examples of, all the parts of speech.

Define a phrase, a clause, and give examples of each.

What are the only verbs that can be in the passive voice? Why?

Write a complex sentence containing a noun clause; one containing an adjective clause, one containing an adverbial clause.

Analyze the following sentence and parse all the words in full:

"The soldiers of the Tenth Legion, wearied by their long march and exhausted from want of food, were unable to resist the onset of the enemy."

### III. HISTORY.

Give a brief account of the first settlement in each of the original thirteen colonies.

Define Charter, Proprietary, and Royal government as applied to the colonies and name the colonies that were under each of these forms of government.

Give the dates, causes, and results of each of the colonial wars.

Describe the Declaration of Independence, its causes, and two important battles of the War of the Revolution.

Give the boundaries of the United States at the time of the adoption of the Constitution, and indicate briefly the time, manner and extent of each subsequent acquisition of contiguous territory.

Name the causes and results of the War of 1812, and give an account of the battles of Lake Erie and New Orleans.

State the causes of the Civil War and describe the following battles: Antietam, Gettysburg, Atlanta.

Give a full account of two naval battles of the Spanish-American War.

Give a brief account of each of the great Political Parties since the adoption of the Constitution, indicating their prominent principles.

Write a brief account of Benjamin Franklin, John Quincy Adams, Andrew Jackson, Daniel Webster, John C. Calhoun, James G. Blaine.

### IV. GEOGRAPHY.

Where is the Sea of Japan? Bay of Bengal? Arabian Sea? Gulf of Guinea? Carribean Sea? Hudson's Bay?

What great lakes in Africa? Western Asia? Where are the great lakes of the Western Hemisphere? Where is the Amazon river? The Mississippi? In what direction do these rivers flow? Where is the Nile?

In what ocean are most of the islands of the world? What large islands between Asia and Australia? What large island east of Africa? What group southeast of the United States? What group encloses the Behring Sea?

Name in order, from North to South the States touching the east bank of the Mississippi and give chief towns in each.

Bound California, Massachusetts, Ohio, Florida and name the capital and chief city of each.

What are the chief natural products of Eastern Kentucky? Of Central Kentucky? Of Western Kentucky?

Do the island possessions acquired by the United States since 1898 lie north or south of the Tropic of Cancer?

What European Nations have possessions in Asia? Give the location of these possessions.

Name the constitutional monarchies of Europe and give their capitals.

Locate Manchuria, Cape Colony, Venezuela, Oklahoma.

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## ASSOCIATIONS.

### THE UNION LITERARY SOCIETY.

This, the oldest of the literary associations connected with The State College, was formed in 1872 by the consolidation of the Yost Club and the Ashland Institute, and operates under a charter from the Legislature. It occupies a commodious and well-furnished hall in the Gymnasium and is supplied with a library due in part to an appropriation from the State. Besides the weekly meetings devoted to declamations, essays, and debates, the Society holds on the 22nd of February an annual contest in oratory, and awards to the successful competitor a gold medal provided by the alumni.

### THE PATTERSON LITERARY SOCIETY.

This society, formed in 1887, and at the suggestion of Gov. Knott named in honor of the President of the College, was chartered in 1888. It is provided with a handsome room and a good library. The annual oratorical contest is held on the 26th of March, the birthday of the President, who presents the first prize, a gold medal. The second, also a gold medal, is the gift of Mr. George W. Crum, of Louisville.

### THE PHILOSOPHIAN AND NEVILLE SOCIETIES.

These Societies, instituted, the former in 1882, the latter in 1905, by young women of the College, for literary improvement and social pleasure,

offer, besides the usual weekly meetings, public entertainments consisting of declamations, essays, criticisms, and addresses.

### THE ENGINEERING SOCIETY.

This body, composed of matriculates in the courses of engineering, meets on the third Friday of each month. The exercises consist of a paper read by a member on some pertinent topic, followed by a general discussion. During the year the Society is occasionally favored with lectures by experienced engineers not connected with the College.

### ATHLETICS.

Opportunity for physical exercise and legitimate outdoor sport is afforded by the spacious Athletic Field and Parade Ground. The management of athletics by the students is vested in an Athletic Association formed by the union of the Foot-ball, the Base-ball, and Track-athletic Societies. The officers of these three sub-organizations constitute the managing board of the Athletic Association. The control of athletics by the Faculty is secured through their Committee on Athletics, acting under a set of regulations adopted by the Faculty and approved by the Trustees.

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## ALUMNI.

### 1869.

Munson, William Benjamin, B. S., ............................Denison, Texas.

### 1870.

Munson, Thomas Volney, B. S., M. S., '83, ..................Denison, Texas.

### 1871.

Harding, Enoch, B. S., ............................................ Fort Worth, Texas.

### 1874.

Carswell, Robert Emmett, B. S., ...............................Decatur, Texas.
Dean, John Allen, B. S., ...........................................Owensboro.
Hardin, Thomas Rollins, B. S., M. S., '76......................Ruston, La.
Smith, Edward Everett, B. S., ......................... ........Chicago, Ill.

### 1875.

Brown, Edgar Thomas, B. S., M. S., '77, .....................Chicago, Ill.

### 1877.

Floete, Franklin, B. S., .........................................St. Paul, Minn.
Ward, Ballard Preston, B. S., ...... ...................... .....Speedwell, Va.

### 1878.

Cole, Moses Salvador, B. S., ......................................Rivas, Nicaragua,
*Mackie, Mahlon, B. S., ................................ .......Mt. Sterling.

*Deceased.

### 1879.

Blakely, Charles Graham, B. S., M. S., '84, ..................Topeka, Kansas.
Hays. Napoleon Bonaparte, B. S., M. S., '84, ..............Frankfort.
Perry, Caleb Sykes, B. S., ..........................................Indianapolis, Ind.
Wright, Henry Moses, B. S., .......................................Alton Park, Tenn.

### 1880.

*Crawford, James, B. S., ..........................................Lexie, Tenn.
Peter, Alfred Meredith, B. S., ....................................Lexington.
Weller, Nicholas John, B. S., .....................................Pineville.
Whatley, George Croghan, B. S., ................................Birmingham, Ala.

### 1881.

Pence, Merry Lewis, B. S , M. S., '85, ..........................Lexington.

### 1882.

*Berry, George G., B. S.. ..........................................Lexington.
DeRoode, Louis Kuinders, A. B., A. M., '86, .................New York.
Patterson, John Letcher, A. B., A. M., '86, ..................Louisville.
Rogers, Edward Lee, A. B., .........................................Lexington.
Shackleford, John Armstrong, A. B., A. M., '86,............Tacoma, Wash.
Stoll, John William, A. B., .........................................Lexington.

### 1883.

*King, William Elijah, B. S., ......................................Nelson County.
Taylor, James, W., A. B., ............................................New Castle.

### 1884.

Eubanks, Burton Prendergast, B. S., ...........................Dallas, Texas.
Graves, Clarence Scott, B. S., .....................................Lexington.
*Jones, Henry Clay, B. S., ..........................................Monticello.
Kastle, Joseph Hoeing, B. S., ......................................Washington, D. C
Ramsey, Russell Thomas, B. S., ..................................Denver, Col.
Riley, Otis Violette, B. S., ..........................................Pineville.

### 1885.

DeRoode, Rudolph John Julius, B. S., M. S., '87, ........Glens Falls, N. Y.
Gess, George Thomas, B. S., .......................................Lexington.
Gordon, John Crittenden, B. S., ..................................Eminence.
Lambuth, William David, A. B., ...................................Seattle, Wash.
Scott, James Russell, B. S., .........................................Lexington.
*Thornbury, William Garland, B. S., ..............................Brooklyn, N. Y,

### 1886.

Morgan, Thomas Hunt, B, S., M. S., '88, .......................New York.
*Prewitt, Robert Lee, A. B., .........................................Memphis, Tenn.
Prewitt, William C., A. B,, ..........................................Fort Worth, Texas.

*Deceased.

1887.

Hifner, Kearney Lee, B. S., ..............................Lexington.
Shackleford, Thomas Wheatley, A. B., ...............New York.

1888.

Bartlett, Frederick Vincent, B. S., .....................Lexington.
Bryan, George Gist, B. S., ..............................Norfolk, Va.
Curtis, Henry Ernest, B. S., M. S., '92, ..............Lexington.
Gunn, Belle Clement, B. S., ..............................Springfield, O.
Payne, Robert Treat, B. S,, ..............................Athens.

1889.

Ellershaw, Edward, A. B., A. M., '92, ................Bristol, England.
Frazer, Hugh Miller, B. S., ..............................Lexington.
*Patterson, William Andrew, B. S., ....................Lexington.
Prewitt, Annie Gist, B. S., ..............................Lexington.
Walker, Robert Bernie, B. S., ..........................St. Louis, Mo.

1890.

Anderson, Richard Thomas, Jr., B. S., ................Lexington.
Baker, Annie Jane, B. S., ..................................Lexington
Brock, Charles Robert, B. S.,.............................Denver, Col.
Forston, Keene Richards, B. S., .........................Nicholasville.
Gunn, John Wesley, C. E., ................................Lexington.
Hoeing, Charles, A. B., ....................................Rochester, N. Y.
Wilson, Margaret Agnes, B. S., ........................Deadwood, Col.
Yates, James Anderson, B. S., ..........................Ottawa, Kansas.

1891

Berry, Henry Skillman, B. S., ..........................Lexington.
Clardy, U. L., B. S., ........................................Goodwill, S. D.
Muncy, Victor Emannuel, B. S., .......................Cincinnati, O.
Wallis, William Russell, C. E., ........................Friar's Point, Miss.
Warner, B. Callie, B. S., ..................................Washington, D. C.

1892.

Cox, Arthur Melville, A. B., ............................Cynthiana.
*Elkin, Fielding Clay, B. S., ............................Lexington.
Hunt, Irene Leonora, B. S., ..............................Lexington.
Maxey, John Gee, A. B., ..................................Louisville.
Page, William Seabury, C. E., ..........................Danville, Wash.
Pottinger, Samuel Lancaster, A. B., ..................Louisville.
*Reynolds, Frank Craig, C. E., .........................Lexington.
Scovell, Frank Elmer, C. E., ............................Chamois, Mo.
Shaw, Hiram, Jr., B. S., ..................................Chicago, Ill.
Shelby, Isaac Prather, C. E., ...........................Arkansas.
Southgate, Butler Turpin, A. B., .......................Lexington.

*Deceased.

## 1893.

Adams, Katherine Innis, A. B., .............. ..... .....Albuquerque, N. M.
Bryan, John Irwin, B. S., B. M. E., '95, ...........Boston, Mass.
Courtney, Edmond, B. Ped., ..............................Neave.
Gunn, Henry Martin, B. S., ...............................Mt Sterling.
Hobdy, William Cott, B. S., .......... ....................Honolulu, H. I.
Johnson, James Richard, B. M. E., .......................Reno, Nev.
McFarlin, John William, B. S., ...........................Franklin.
Railey, Morton Sanders, C. E., ...........................Washington, D. C.
Roberts, Daniel Stillwell, B. Ped., A. M., '01, ......Louisville.
Smith, Denny Perryman, B. S., ...........................Cadiz.
Speyer, Rosa, B. S., M. S., 1900, .......................Leipzig, Germ.
Ware, Cora E., B. Ped., .............................. ..... Pineville, Ky.
White, Milford, C. E., M. S., 1900, ....................Lexington.
Willis, Benjamin Grant, B. S., ...........................Lexington.

## 1894.

Aulick, Edwin Chesterfield, A. B., .................... Louisville.
Bradshaw, George Dickie, B. Ped., .......... .........Chicago, Ill.
Brand, Edward, A. B., A. M., '96, ......................East Lake, Ala.
Curtis, Carlton Coleman, B. S., ..........................Babylon, N. Y.
Faig, John Theodore, M. E., ..............................Cincinnati, O.
Garred, Ulysses Anderson, B. M. E.,..................Anaconda, Mont.
*Griffing, Emma Rosetta, B. S., ..... ..................Lexington.
Hays, James Morrison, A. B., ............................Barbourville.
Hughes, Leonard Samuel, B. S., .........................Manila, P. I.
Jones, Mattison Boyd, A. B., .............. ...............Los Angeles, Cal.
Keiser, Benjamin Christopher, B. S., ..................St. Louis, Mo.
Kroesing, Lillie, B. S., .....................................Lexington.
Newton, Nathan Alexander, B. M. E., M. E., '99,..Oil City, Pa.
Norman, Albert Clift, B. M. E., .........................Savannah, Ga.
Oots, Nina Pearl, B. S., ......................... ............Lexington.
Shelby, Katherine, B. S., ...... ...........................Lexington.
Sledd, Dora, B. Ped., ........................................Chicago, Ill.
Trigg, William Clay, C. E., .............. ..................Ullin, Ill.
Warner, Hattie Hocker, B. S., ............................Honolulu, H. I.

## 1895.

Atkins, Mary Lyons, B. S., ................................ Lexington.
Barker, Lanis Spurgeon, B. S., .......................... Ocala, Fla.
Bush, Henry Skillman, B. S., ............................Lexington.
Didlake, Mary LeGrand, B. S., M. S., ...............Lexington.
Downing, Joseph Milton, B. M. E., ....................Jackson, Tenn.
Faulkner, John Vick, C. E., ... ..........................Simon, Ind. Ter.
Fitzhugh, Lucy Stuart, A. B., A. M., '96, ........ ..Lexington.

*Deceased.

Foster, Nettie Belle, B. S., ..........................................Lexington.
King, Elizabeth Whittington, A. B., A. M., '96, ...........Ft. Wayne, Ind.
Lewis, Thomas Stone, A. B., ........... ..........................Lexington.
McConathy, James Asa, B. S., ....................................Kirklevington.
McCaughliffe, Mary Catherine, B. S., ..........................Lexington.
Murrill, Paul Ingold, B. S., M. S., '96, ............. .........Wilmington, Del.
Newman, Roberta, B. S., ........................ ..................Lexington.
Reynolds, Nellie Anna, B. S., M. S., '96,....................Lexington.
Stoll, Richard Charles, A. B., .......................................Lexington.
Weaver, Rufus Lee, B. S., ...........................................New York.
Willmott, John Webb, A. B., ........................................Wewoka, I. T.
Woods, John Joseph, A. B., ............. ...... ..... ..............Lexington.

## 1896.

Alford, Smith Edison, A. B., .......................................Ellwood, Pa.
Carnahan, James Williams, A. B., ...............................Toledo, O.
Case, Daniel Morris, B. M. E., ....................................Georgetown.
Davidson, Harry Adolph, C. E., ................ ................Louisville.
Dean, Thomas Roland, A. B., .......................................S. McAlister, I. T.
Duck, Alice, B. S., .......................................................Lexington.
Dunlap, John Jennings, A. B., ...................... .............Lancaster.
Kerrick, Felix, A. B., A. M., '01, ......................... ...Louisville.
Lyle, Joseph Irvin, B. M. E., M. E., '02, .....................New York.
McDowell, Edward Campbell, B. M. E., ...... ................Jackson, Tenn.
Orman, Henry, B. M. E., ..............................................Danville.
Trigg, John Henry, B. S., ...........................................New Columbus.
Woods, John Wesley, A. B...... ......... .........................Ashland.

## 1897.

Allen, William Raymond, A. B., ................................Chetocah, I. T.
Anderson, Henry Clay, B. M. E., ...............................Ann Arbor, Mich.
*Atkins, Antoinette, Thornton, B. S., ............... ...........Lexington.
Blessing, George Frederick, B. M. E., M. E., ......... .....Reno, Nevada.
Bullock, Samuel Archibald, B. M. E., M. E., ............. ...Berwick, Pa.
Cassidy, Elizabeth, B. S., ............ ................ .......... ..Lexington.
Clarke, Mary Eva, B. S., ........................... ...............Lexington.
Collier, William Henry, B. M. E., ................................Jackson, Tenn.
DeBow, Samuel Carruthers, B. M. E., ..........................Jackson, Tenn.
Downing, George Crutcher, B. Ped., M. S., ..................Frankfort.
Duck, Berkley Wilson, B. M. E., .................................Indianapolis, Ind.
Duncan, William Adolphus, B. M. E., ..........................Nashville, Tenn.
Frazer, Joseph Christie, B. S., ....................................Baltimore, Md.
Geary, John Thomas, B. S., .........................................U. S. Army.
Gordon, Robert Lee, A. B., A. M., '98, ........................St. Louis, Mo.
Gunn, Clara Brooke, B. S., ......................... ................Lexington.

*Deceased.

*Haley, John Thomas, B. S., ........................................Fayette County.
Hendren, James Harry, B. S., ........................................ Speedwell.
Hicks, Arthur Lee, A. B., ........................................Ashland.
Kelly, Thomas Conway, B. M. E., ........................................Milwaukee, Wis.
McHargue, Barbara Susan, B. S., ........................................ London.
Morgan, George Matt, B. S., .. ........................................Cincinnati, O.
Pope, Robert Lee, A. B., ........................................Williamsburg.
Scott, John, A B., ........................................San Antonio, Tex.
Searcy, Lula, B. Ped., ........................................Lexington.
Simrall, James Orlando Harrison, A. B., ........................................Lexington.
Warner, Logan Hocker, B. S., ........................................LaFollette, Tenn.
White, Martha Ripperdan, B. S., M. S., ........................................Lexington.

## 1898.

Brock, George Green, A. B., M. S., '99, ........................................ London.
Brock, Lafayette Richardson, B. S., ........................................Lexington.
Cahill, William James David, B. M. E., ........................................Lexington.
Campbell, Thomas Luther, A. B., ........................................Memphis, Tenn.
Carpenter, William Thomas, B. M. E., ........................................Vallejo, Cal.
Farley, Frank Preston, A. B., ........................................Flatlick.
Hammock, David William, B. S., ........................................Cane Creek.
Hamilton, Thomas Smith, B. M. E., ........................................Louisville.
Johnson, Jack Stubblefield, A. B., ........................................Muir.
King, Margaret Isadora, A. B., ........................................ Lexington.
Loevenhart, Arthur Solomon, B. S.. M. S., '99, ........................................Baltimore, Md.
Loevenhart, Edgar Charles, B. M. E., ........................................Chicago, Ill.
Lucas, Ida West, A. B., ........................................Ellwood, Pa.
Straus, Charles Louis, B. M. E., M. E., '99, ........................................Lexington.
Terry, Lila Beatrice, A. B., ........................................Paris.
Trosper, Henderson Taylor, A. B., ........................................London.
Turner, Job Darbin, B. Ped., ........................................Lexington.
Ward, Paul Sterling, B. M. E., ........................................Cincinnati, O.
Wilson, Henry Clay, A. B., ........................................Cynthiana.

## 1899.

Allen, Leonard Barnes, B. C. E., ........................................Whitehouse.
Brock, Walter Lucas, A. B., ........................................London.
Bronaugh, Will Logan, B. M. E., M. E., '03, ........................................Chicago, Ill.
Bullock, Frederick Dabney, B. S., ........................................Baltimore, Md.
Bullock, Joseph Hunt, B. S., ........................................Lexington.
Butler, Frances Victor, A. B., A. M., '02, ........................................Nicholasville.
Copland, Alexander Chisholm, B. C. E., ........................................Lexington.
Cox, Jane Bramblett, A. B., ........................................Lexington.
Davidson, Joseph Ernest, B. C. E., ........................................ Louisville.
Graves, Leila May, B. S, ........................................Lexington.

*Deceased.

Grinstead, Wrenn Jones, A. B,, ..............................Tenn.
Horton, Minnie Leigh, A. B., ...... ...............................Camargo.
Hughes, James William, B. M. E., ..............................Quincy, Mont.
Jett, Carter Coleman, B. M. E., ...................... .........Alleghany, Pa.
Johnston, Philip Preston, B. M. E., ................. ........Lexington.
Maddocks, Roydon Keith, B. C. E.,...........................Wehrum, Pa.
Marks, Samuel Blackburn, B. S., ..............................Versailles.
Morrow, Joseph, B. Ped., ..........................................Rankin.
Roberts, George, B. Ped., M. S., ...............................Berkeley, Cal.
Scherffius, William Henry, B. S., ..................... ......Lexington.
Scholtz, Theodore Walter, B. M. E., ..........................East Pittsburg, Pa.
Simpson, Eugene Erwin, A. B., A. M., B. M. E., .........Lexington.
Smith, Sidney Allan, A. B., ........................................Louisville.
Vance, Arthur John, B. M. E., .......... ........................Cleveland, O.
*Warren, Richard Evans, A. B., ....................... .....Lexington.
Willmott, Jennie Walker, B. S., .......... ......................Cleveland, O.
Young, Bradley Woodruff, B. S., ...............................Cincinnati, O.

## 1900.

Allen, Robert McDowell, A. B., .................. ..............Lexington.
Bowden, Mary Willa, A. B., .......................................Paris.
Brock, David Morris, B. C. E., ...................................Norfolk, Miss.
Cornett, Charles George, B. Ped., ..............................Pineville, Oregon.
Cox, Lula May, B. S., ...............................................Lexington.
Darling, Lewis Andrew, B. M. E., .................. .........Palo Alto, Cal.
Frankel, Leon Kaufman, B. M. E., M. E., '02, ............Lexington.
Graham, James Hiram, C. E., ....................................Knoxville, Tenn.
Graves, James Madison, B. M. E., M. E.., '01, ...........Pittsburg, Pa.
Gunn, John Tevis, A. B., A. M., '01, ... ...................Lafayette, Ind.
Hestand, John Emerson, B. S., ..................................Edmonton.
Hundley, Leslie, B. S., .......... ..................................Rome.
Johnston, John Pelham, B. M. E., M. E., '01, .........Lexington.
Johnston, Marius Early, B. S., ............................. Lexington.
Jones, Thomas Almon, A. B., ....................................Creelsboro.
Lester, Arthur Vane, B. C. E., ..................................Richmond, Va.
McCarty, William Carpenter, B. S., ..........................Louisville.
Musselman, Joseph Franklin, B. M. E., M. E., '04, ...New York.
Neal, Mary Eliza, A. B., ...........................................Paris.
Nichols, Thomas Ashbrook, B. M. E., .......................Pittsburg, Penn.
Peyton, Nellie Evans, B. S., .................................... Lexington.
*Ragan, Leonidas, A. B., ..........................................Shearer Valley.
Reed, Jewett Villeroy, B. S., ....................................Louisville.
*Rieser, Eugene Feist, B. M. E., ..... ..... ... . ........... Louisville.
Scrugham, James Graves, B. M. E., ... ......................Reno, Nev.

*Deceased.

Smith, Albert Elias, B. S., .............................. Owensboro.
Smith, Joshua Soule, B. M. E., .............................. Lexington.
Spears, Miranda Louise, B. S., .............................. Santa Rosa, N. M.
Wilson, James Buckley, B. M. E., .............................. Louisville.

## 1901.

Bassett, Henry Preston, B. S., M. S., '02, .............. Cynthiana.
Bewlay, Harry, B. M. E., .............................. Chicago, Ill.
*Blessing, Charles Albert, B. M. E., .............................. Buffalo, N. Y.
Bliss, Charlotte Miriam, A. B., .............................. Louisville.
Bradley, Charles Walter, B. M. E., .............................. Norfolk, Va.
Butler, Nannie Etta, B. S., .............................. Lexington.
Craig, William James, A. B., .............................. Owensboro.
Cutler, Frank Garfield, B. M. E., M. E., '04, .............. Chicago, Ill.
Dabney, Albert Smith, A. B., .............................. Cadiz.
Daugherty, Frank, B. M. E., .............................. Pittsburg, Penn.
Ellis, Nicholas Henry, B. Ped., .............................. Faywood.
Gilbert, John Whittington, B. S., .............................. Lawrenceburg.
Gordon, Mary Logan, A. B., .............................. Eminence.
Hailey, George Hereford, B. C. E., .............................. Springfield, Ill.
Hardin, Calvin Evans, B. S., .............................. Sibley, La.
*Humphrey, Claude Loecher, B. M. E., .............................. Lexington.
Hunt, Robert Bruce, B. M. E., .............................. St. Augustine, Fla.
Johnson, William Piatt, B. Ped., .............................. Fredericktown, Mo.
Jones, Leila Eleanor, B. Ped., .............................. Eminence.
Kaufman, Philip Levy, B. M. E., .............................. Chicago, Ill.
Klein, Garnet Rosel, B. M. E., .............................. Beloit, Wis.
Lary, Allen Pettit, B. S., .............................. Lexington.
Lewis, Charles Dickens, B. Ped., .............................. Berea.
Luten, Drew William, A. B., .............................. Cayce.
Marshall, Albert Ross, B. S., M. S., '02, .............. Lexington.
Milburn, Frank William, B. M. E., M. E., '04, .............. Nashville, Tenn.
Moore, Thomas Brent, A. B., .............................. Lexington.
Offutt, Jimmie Morrison, B. S., M. S., '04, .............. Louisville.
Pennington, William Lee, B. Ped., .............................. Sandyhook.
Perkins, Wade Hampton, B. C. E., .............................. Nashville, Tenn.
Rankin, Flora Emma, A. B., .............................. Rankin.
Richmond, Thomas Logan, B. Agr., .............................. Manila, P. I.
Seibert, Frank Thomas, B. M. E., .............................. Philadelphia, Pa.
Sharon, John Albertus, B. Ped., .............................. Richmond.
Shedd, Oliver March, B. S., M. S., '04, .............. Lexington.
Taylor, Gibson Walker, A. B., .............................. Troy, Mo.
Treas, Charles, B. C. E., .............................. McComb City, Miss.

*Deceased.

Webb, William Snyder, B. S., M. S., '02, ................Wewoka, I. T.
West, Perry, B. M. E., M. E., '04, ..........................Louisville.
Williams, Ella Campbell, B. S., M. S.. '02, ..............Chilesburg.

## 1902.

Barr, Thomas James, B. M. E., ................................Clay City.
Berry, Jesse Cecil, B. Ped., ......................................Clintonville.
Boulware, Lemuel Ford, A. B., ................................Campbellsburg.
Bowling, Willette Lee, B. M. E., ........ ....................New York.
Campbell, Walter Gilbert, A. B., ..... ...................... Louisville.
Clay, Mathew Martin, B. C. E., .............................. Lexington.
Cox, Spencer Foster, B. M. E., ................................Philadelphia, Pa.
Crider, Albert Foster, A. B., M. S., '03, ................... Marion.
Ditto, Leola, B. Ped., ....................................... .........Pleasureville.
Donan, Daniel Cummins, B. Ped., ............................Hardyville.
Doyle, Chester Lawrence, B. M. E., ........................Chicago, Ill.
Dunn, Oswald Thorp, B. C. E., C. E., '03, ..............New Orleans, La.
Evans, Edwin Clinton, B. M. E., ..............................London, Eng.
Ewell, George Watkins, A. B., ................................U. S. Army.
Frazee, George Burbridge, B. M. E., ........................Steven's Point, Wis.
Gaither, Morton Williams, B. M. E., ......................Harrodsburg.
Grady, Clyde, A. B., A. M., '03, ............................ Smith's Mills.
Hart, William Frederick, B. C. E., .. ........................St. Louis, Mo.
Hatfield, Ulysses Grant, B. Ped., ............................Jabez.
Haynes, Robert, B. Ped., ........................................Robards.
Hoeing, Howard Aubrey, B. M. E., ........................Cincinnati, O.
Hoeing, Wallace, B. M. E., ....................................Louisville.
Hughes, William Neal, B. C. E.. ..............................Louisville.
Humphrey, Hubert Lee, B. M. E., ..........................Cleveland, O.
Jackson, John Hunt, B. Ped., ..................................New Columbus.
Jett, Charles Mills, B. M. E., ..................................Alleghany, Pa.
Jones, Theodore Tolman, A. B., A. M., '03, .............Lexington.
Kehoe, John Hickey, B. M. E., ..............................Cynthiana.
Lawhorn, Jesse Sherman, B. Ped., ...........................Paris.
Lyne, William, B. M. E., ................................. ......Chicago, Ill.
Maddox, David Campbell, A. B., ............................Hickman.
Martin, Lewis Wynn, B. M. E., ..............................St. Louis, Mo.
Mason, Glenn Frank, B. S., M. S., '03.....................Pittsburg, Pa.
McDonald, Samuel Gilbert, B. Agr., .......................Chicago, Ill.
Moorman, Robert Emmett, B. C. E., .......................Phoenixville, Pa.
Pulverman, William Edward, B. M. E.., ... ...............Philadelphia, Pa.
Smith, Chester Martin, B. M. E., ...........................Buffalo, N. Y.
Smith, Orville Francis, B. C. E., ............................Phoenixville, Pa.
Stoner, John Lee, B. C. E., .......................................Pikeville.
Sumner, Herman, B. M. E., .....................................Chicago, Ill.

Taylor, Flemin Coffee, B. M. E. ..............................Chicago, Ill.
Taylor, Lewis Nelson, B. S., ......................................Science Hill.
Threlkeld, Lal Duncan, A. B., ..................................Salem.
Uppington, George Rout, B. M. E.,..........................Philadelphia, Pa.
Warnock, Thomas Edwin, B. M. E., M. E., '03, ......Chicago, Ill.
Williams, Cora, B. Ped., ..........................................Bellevue.
Wilson, Richard Napoleon, B. M. E., ....................Dayton, O.

## 1903.

Austin, Mary Wickliffe, A. B.,...................................Paris.
Barkley, George LaRue, B. M. E., .........................Springfield, Ill.
Bradley, Homer Theodore, B. M. E., ......................Falmouth.
Brown, John Edwin, B. Agr., ....................................Shelbyville.
Bullock, Barry, A. B., ...............................................Lexington.
Chorn, Sarah Marshall, A. B., ................................Lexington.
Cutler, Thomas Henry, B. M. E., ...........................Springfield, Ill.
Ellis, Richard Washington, B. M. E., .....................Boston, Mass.
Elvolve, Elias, B. S., ............ ............. ......... .....Washington, D. C.
Evans Frederick Huston, B. M. E.,.........................Ironton, O.
Finneran, James Cornelius, B. M. E., ............ .......Beloit, Wis.
Finneran, Thomas Francis, B. C. E., .................... Midway.
Gaither, Edward Basil, B. M. E., ............................ Mexico.
Galloway, Clarence Albert, A. B.,............................Owenton.
Hamilton, Lloyd Logan, B. M. E., .........................Chicago.
Hancock, Mason Wallace, A. B.,..............................Columbia.
Heaton, Herman Creel, B. M. E., ...........................Cincinnati, O.
Higgins, Lucy Joseph, A. B., ..................................Louisville.
Hutchings, John Bacon, B. C. E.,.............................Louisville.
Kelly, Edwin Owen Guerrant, B. S., M. S., '04,.......Lexington.
Lancaster John Ralph, B. M. E., ............................Cleveland, O.
Lyle, Cornelius Railey, B. M. E., ............................New York.
Marks, William Mathews, B. M. E., .......................Versailles.
Marshall, Isabella West, A. B., ............................ ..Lexington.
McKee, Neal Trimble, B. M. E., ............................Cleveland, O.
McLaughlin, Marguerite, A. B.,...............................Lexington.
Miller, Mina Garrard, B. S., . ..................................Elkton.
Naive, Miriam Wynter, ......................... ..................Lexington.
Norvell, Lucy Hargis, A. B., ........................... ........Carlisle.
Peckinpaugh, Charles Leon, B. C. E., ....................Louisville.
Pence, Alice Courtney, B. S., M. S., '04, ...............Lexington.
Perrine, Charles Duke, B. M. E., ........ ...................Maysville.
Rand, Edward, B. M. E., ..........................................Beloit, Wis.
Render, Fannie, A. B., .............. ............................Hartford.
Rice, Guy Wickliffe, B. C. E., .................................Lexington.
Sadler, Reuben Batson, B. S., M. S., '04, ...............Wilmore.

Shannon, Bernardette, A. B., ................................ .....Lexington.
Spencer, Howell Mason, B. M. E., ........................San Francisco, Cal.
Sprake, Eleanor Hedges, A. B., ................................Paris.
*Tandy, Clarke Howell, A. B., ........... ...... ..... .....Oxford, Eng.
Thomas, Smith Riley, B. M. E., ...........................Beloit, Wis.
Thompson, John James, B. M. E., ..........................Cincinnati.
Vogt, John Henry Leon, B. M. E., ........................Indianapolis, Ind.
Whitfield, Nellie Herbert, B. S., M. S., '04, ...............Lexington.
Whittinghill, Jackson Pate, B. S., ............................Glendeane.
Whittinghill, Roscoe Timoleon, B. Ped., .................Clarksville, Tenn.
Wurtele, Edward Conrad, A. B , ....................... ........Louisville.

## 1904.

Arnett, Richard Hood, B. Ped., ...............................Troy.
Austin, Lillian, A. B., ............................................Paris.
Barclay, Robert Hargrave, B. E. M., ........................Louisville.
Bell, Howard Kerfoot, B. S., B. C. E., ... .... ............Midway.
Buford, Nancy Bell, A. B., ........................ ..... ......New Castle
Butner, Robert Clarke, B. M. E., .................... ........Lexington.
Clo, J Harry, B. S., ................................................ .. Science Hill.
Coleman, Harry Raymond, B. Ped., ........................Latonia.
Crutchfield, William Boulden, A. B., .......................Lexington.
Denny, Samuel Alfred, B. S., ...................................Madisonville.
Dowling, Edward Thomas, B. M. E., ........................Lexington.
Doyle, Martin Augustus, B. M E.,...............................Paris.
Dyer, Orville Kirk, B. M. E.. ....................................De Koven.
Freeman, William Edwin, B. M. E., ........................Lexington.
Fry, Henry Skillman, B. M. E., ...............................Lexington.
Gardner, James Henry, B. S., ................................. Sonora.
Gary, William Edward, B. S., ..................................Pembroke.
Gilliland, Eugene, B. M. E., ............ ..................... .. Chenault.
Gilmore, Charles Robert, B. S , ...............................Valley Oak.
Gordon, Amos Alvin, B. C. E , ..................................Owensboro.
Grey, William David, B. C. E., .................................Louisville.
Gullion, Carroll Hanks, B. M. E., ........................... New Castle.
Harding, George Othniel, B. C. E., ..........................Campbellsville.
Hart, Benjamin Robert, B. S , ............... ............ .....Pisgah
Hart, Margaret Rebecca, A. B., ..............................Pisgah.
Hedges, Fleming Dillard, A. B., ..................... ........Walton.
Hoagland, Roy Chan, B. S.,.................................... New Castle.
House, Beverly Pryor, A. B., ...................................Cambridge, Mass.
Howard, Styles Ironton, B. M. E., ............................Rockvale.
Hunter, Patrick Owen, B. M. E., ...... ...................... Glendeane.
Jaeger, Helen Louise, A. B., ....................................Los Angeles, Cal.

*First Kentucky holder of Rhodes Scholarship.

Jenkins, Alexander Lewis, B. M. E., ....................Bloomfield.
Johnson, Frank Yarbrough, B. M. E., ....................Atlanta, Ga.
Johnston, Hampton Wallace, B. M. E., ....................Lebanon.
Kelly, Walter Pearson, B. S., ....................Hickory Flat.
Lewis, Joseph Graham, B. C. E., ....................Oakland.
Madara, Helen Glenn, A. B., ....................Lexington.
Maguire, Mary Josephine, B. S., ....................Lexington.
Matlick, Charles Aloysius, B. M. E., ....................Lexington.
Matthews, John Eve, B. M. E., ....................Barbourville.
McCann, Sue Dobyns, B. S., ....................Lexington.
McCauley, James Simeon B. M. E., ....................Versailles.
McCaw, Eloise Chesley Hance, B. S., ....................Pisgah.
Monson, Bessie Lee, B. Ped., ....................Shady Nook.
Montgomery, Francis Joseph, A. B., ....................Lexington.
Nollau, Louis Edward, B. M. E., ....................Louisville.
Payne, William Campbell, B. S., ....................Lexington.
Peratt, Charles Oscar, A. B., ....................Hilltop.
Pickles, George Wellington, B. C. E., ....................Richmond.
Porch, Madison B., B. S., .................... Somerset.
Puckett, Homer, B. C. E., ....................Tonieville.
Ramey, Emerson Everett, B. M. E., ....................Carlisle.
Renz, Gertrude, B. S., ....................Louisville.
Rice, Heber Holbrook, B. S., ....................Cambridge, Mass.
Sandefur, James Franklin, A. B., ....................Cambridge, Mass.
Schneiter, Frederic Lewis. B. C. E,, ....................Louisville.
Schultz, Elmer Wilkerson, A. B., ....................Lexington.
Shelby John Craig, A. B., ....................Cambridge, Mass.
Shobe, William Merritt, B. Agr., ....................Oakland.
Smedley, Sarah Cleveland, A. B., ....................Ft. Spring.
Smith, Claude Robert, B. S., ....................Elizabethtown.
Smith, Thomas Marshall, B. S., ....................Hooktown.
Stackhouse, Clifton Carr, B. M. E., ....................Lexington.
St. John, Claire Porter, B M. E., .................... Brooklyn, N. Y.
Thurman, Zella Mae, B. S., ....................Somerset.
Tucker, Nannie Susan, A. B., ....................Washington.
Vaughn, Earl Cleveland, A. B., .................... Smithville.
Warder, William Henry, B. C. E, ....................Glasgow.
Ware, Cornelius, B. Ped., ....................Pulaski.
Wilkie, Margaret Donald Erskine, B. S., ....................Lexington.
Wilson, George Hancock, B. S., ....................Lexington.
Wurtele, Henry Joseph, B. C. E., ....................Louisville.

1905.

Adamson, Keith Frazee, B. M. E., ....................Milwaukee, Wis.
Akin, Allison, B. M. E., ....................Chicago, Ill.

Amoss, Harold Lindsay, B. S., ............................Washington, D. C.
Baumgarten, Louis Erwin, B. M. E., ......................Chicago, Ill.
Bickel, Charles Alfred, B. M. E., ............................Norwood, O.
Brashear, Sue Ashbrook, A. B., ............................Cynthiana.
Bryan, Ruth Mitchell, A. B., ...................................Lexington.
*Burtt, Wilson Bryant, B. C. E., .............................Lexington.
Campbell, Marion, B. S., ........................................Louisville.
Cline, Edgar Allen, B. M. E., ..................................Philadelphia, Pa.
Coons, Joseph Morrison, B. C. E., ..........................Jeffersonville, Ind.
Darnall, Frank Kendrick, B. M. E., ..........................Wilkinsburg, Pa.
Dodd, Minnie Lee, B. S., .........................................Louisville.
Drake, Jimmie, A. B., ...............................................Bristow, Ind. Ter.
Edwards, Harry Griswell, B. M. E., ..........................Schenectady, N. Y.
Eubank, Walter Pendleton, B. C. E., ........................Cave City.
Gfroerer, Fannye Rosalie, B. S., ..............................Louisville.
Gilbert, George Hubbard, B. M. E., ..........................Chicago, Ill.
Grady, William Henry, B. M. E., ..............................Indianapolis, Ind.
Ham, Clarence Walker, B. M. E., ..............................Lexington.
Haynes, Chastain Wilson, B. S., ...............................Marion.
Ingels, Howard Payne, B. M. E., ...............................Berwick, Pa.
Johnston, Fayette, B. M. E., ....................................Lexington.
Kelly, William Cobb, B. C. E., ..................................Bloomington, Ill.
Kroell, Oscar R., B. E. M., .......................................Lexington.
Layson, William George, B. M. E., ............................Indianapolis, Ind.
Morris, Stewart Minor, B. M. E., ...............................Berwick, Pa.
Murphey, Ernest James, A. B., ..................................Pembroke.
Murrell, Artemus Delig, B. M. E., ..............................Beloit, Wis.
Ogg, Grace Truman, A. B., ........................................Mt. Sterling.
Owens, Charles Beland, B. M. E., ..............................Berwick, Pa.
Payne, William Johnson, B. M. E., .............................Georgetown.
Pierce, Claude Stone, A. B., .......................................Pulaski.
Pope, Henry B., B. E. M., ..........................................Lexington.
Powell, Max West, B. M. E., ......................................Beloit, Wis.
Prather, Harry Logan, B. M. E., .................................Reno, Nev.
Ransom, Edward Rogers, B. Agr., ...............................Ransom.
Roberts, Virgil Dick, B. M. E., ....................................Talbotton, Ga.
Rogers, Anna Gist, A. B., ..........................................Lexington.
Schoene, William J., B. Agr., ......................................Geneva, N. Y.
Scholtz, Herman Frederick, B. C. E., ..........................Louisville.

## 1906.

Allen, David Hugh, B. M. E., ......................................Edna, Texas.
Baxter, William Jefferson, A. B., ................................Logana.
Bogard, Frank, B. M. E., .............................................Woodburn, Or.

*From U. S. Military Academy, 1898.*

Brown, Llewellyn Chauncey, B. M. E., .... ............ Harrodsburg.
Bryan, Daniel Boone, B. M. E., ......... ..... .............Lexington.
Burtt, Wilson Bryant, B. C. E., ..............................U. S. Army.
Cartwright, Coleman Clyde, B. C. E., .....................Louisville.
Chinn, Alexander Julian, B. M. E., ........................Frankfort.
*Clo, Nelson Lewis, B. M. E., ........ ... ................ Science Hill.
Darling, Henry Bosworth, B. M. E , ...................... Carrollton.
Daugherty, Garrard, B. S., ......................................Paris.
Downing, William Franklin, B. M. E., ............. .....Lexington.
Dragoo, Robert Estill, B. M. E., ................... ........Lexington.
Du Valle, Rankin Powers, B. C. E., ............... ....... Stamping Ground.
Edmonds, George Peck, B. M. E,, ...........................Lebanon.
Ellis, Richard Washington, B. M. E., .....................New Castle.
Freeman, Thomas Willmott, B. M. E., ........ ...........Duckers.
Goggin, Bessie Engleman, B. S., ............................Somerset.
Gough, Achilles Calloway, B. M. E., ......................Benton.
Gregory, Mary Cottell, A. B., ..................................Louisville.
Gullion, Carroll Hanks, B. M. E., ...........................Carrollton.
Hamilton, James Clay, B. M. E., ........................... Uniontown.
Harper, Joseph Nelson, M. S., ................. ..............Lexington.
Hedges, Charles Cleveland, B. S., ..........................Burlington.
Hopgood, Roy Caldwell, B. M. E., ..........................Morganfield.
Hopson, Katharine Temple, A. B., ..........................Lexington.
Hutchcraft, Lucy Keller, A. B., ..............................Lexington.
Jones, Sadocie Connellee, B. Agr .,............... ..........Porter.
Kelly, Edward Patrick, A. B., .................................Hawesville.
Kemper, William Priest, B. C. E., .... ......... ... ......Millersburg.
Lancaster Charles Prentice, B. C. E., ......................Paris.
Lancaster, John Wilbur, B. Ped.,.................... ......Georgetown.
Lewis, Alexander Thornton, B. M. E., ....................Frankfort.
Magee, Wallace Hopkins, B. M. E., .........................Louisville.
Mahan, Fred Coyt, B. M. E., ........................... .....Hyattsville.
Mahoney, Margaret Elizabeth, B. S.,........................Bedford.
McClelland, Byron, B. S., ...... ................................Walnut Hill.
McCulloch, Eugenia Susan, B. S., ...........................Louisville.
McDowell, Omer, B. M. E.,....... .......... .......... ......Mt. Olivet.
McHargue, James Spencer, B. S....................... ......Boreing.
McKee, Walter Reid, B. M. E., ...............................Mt. Sterling.
McPherson, Charles, Jarrett, B. M. E., ................. ..Hopkinsville.
Montgomery, George Carter, B. M. E.,....................Liberty.
Moore, Henry Ray, B. M. E., ..................................Lebanon.
Newman, James Cleveland, B. M. E., ......................Lexington.
Nisbet, James Clarence, B. C. E.,............................Madisonville.

*Deceased.

Nunnelley, Eva May, A. B., .................................. Lexington.
Paddison, George L., A. M., ..................................North Carolina.
Pope, Henry B., B. E. M., ................ ...................Louisville.
Rankin, French Warder, B. M. E., ..........................Cynthiana.
Read, Henry English, B. M. E., ............................Hodgenville.
Riefkin, Philip, B. M. E., ................ ..................Newport.
Robinson, Herman Clayton, B. M. E., ....................Georgetown.
Rogers, James Dell, B. C. E., ..................................Louisville.
Scott, Henry Skillman, B. M. E., ...........................Bement, Ill.
Scott, Mary Estill, B. S., .........................................Richmond.
Scrugham, Mary, A. B., ..........................................Lexington.
Scrugham, James Graves, M. E., .............................Reno, Nev.
Sellman, Frank Raymond, B. M. E., .......................Nicholasville.
Smith, Maxwell Waide, B. C. E.,.............................Hot Springs, Ark.
Stevens, Harold Edwin, B. Agr., .............................Prewitt.
Sweeney, Mary E., M. S.,............................ ........Lexington.
Taylor, Hugh Wilbur, B. Agr., ................................Lewisport.
Terrell, Robert Craig, B. C. E.,................................Bedford.
Trice, John Buckner, B. M. E.,................................Hopkinsville.
Volkman, Alice, A. B., .... ......................................Louisville.
Wallis, Anna, A. B., ... ...................... ..................Lexington.
Warren, Joseph Evans, B S.,........ ..........................Lexington.
Weir, Fanny, A. B., ..................................................Louisville.
Wendt, Wylie, B. C. E.,..... ...................... ............Newport.
Whitlock, Albert Newlon, A. B., ..............................Richmond.
Wiley, John Rodman, B. C. E.,..................................White Sulphur.
Wilkie, Florence, A. B., ..........................................Lexington.
Wilkie, Margaret Donald Erskine, A. B., M. S.,.........Lexington.
Wilson, Horace Hildebrand. B. M. E., ....................Lexington.

# MILITARY DEPARTMENT.

## ROSTER.

WILSON B. BURTT, CAPT. 18TH INFANTRY, U. S. A.,
*Commandant.*

### STAFF.

T. R. Bryant, *Adjutant.*
G. T. Bogard, *Quartermaster.*

### NON-COMMISSIONED STAFF.

E. Logan, *Sergeant Major.*
A. G. Yankey, *Quartermaster-Sergt.*

### COLOR SERGEANTS.

W. M. Greathouse.
O. B. Chisholm.

| COMPANY A. | COMPANY B. | COMPANY C. | COMPANY D. |
|---|---|---|---|
| CAPTAIN. | CAPTAIN. | CAPTAIN. | CAPTAIN. |
| H. H. Downing. | R. L. Sims | W. T. Green. | F. M. Wilkes. |
| FIRST LIEUT. | FIRST LIEUT. | FIRST LIEUT. | FIRST LIEUT. |
| H. L. Herring. | W. C. Kiesel. | J. B. Earle. | C. M. Roswell. |
| C. S. Bennett. | | | |
| SEC. LIEUT. | SEC. LIEUT. | SEC. LIEUT. | SEC. LIEUT. |
| E. Wells. | A. L. Poynter. | A. L. Wilhoyte. | T. M. Howerton. |
| FIRST SERG'T. | FIRST SERG'T | FIRST SEARG'T. | FIRST SERG'T. |
| E. Bennett. | C. C. Garvin. | G. B. Riedel. | J. W. Gilbert. |
| SERGEANTS. | SERGEANTS. | SERGEANTS. | SERGEANTS. |
| W. O. Stackhouse. | J. S. Crosthwaite. | H. W. Smith. | C. A. Johns. |
| C. B. Ellis. | J. W. Norton. | H. E. Townsend. | R. S. Haff. |
| D. Logan. | W. J. McNamara. | B. D. Williams. | F. P. Warren. |
| E. B. Webb. | H. L. Rankin. | E. F. Worthington. | G. M. Howard. |
| R. D. Garrett. | F. W. Staples. | L. D. Wallace. | M. E. Boales. |
| CORPORALS. | CORPORALS. | CORPORALS. | CORPORALS. |
| C. O. Ryan. | R. R. Atkins. | L. M. Allison. | R. S. Webb. |
| S. A. Rapier. | W. E. Hord. | H. P. Baker. | H. H. Hudson. |
| J. F. Chambers. | J. M. Hughes. | J. T. Bodkin. | R. H. Cram. |
| G. R. Eastwood. | T. O'Day. | W. E. Mosby. | T. B. Short. |
| S. E. Caudill. | | A. S. Winston. | J. N. Locke. |
| J. C. Lewis. | | | |

### BAND.

CHIEF MUSICIAN.
H. E. McGarvey.

PRINC. MUSICIAN.
B. H. Wathen.

DRUM MAJOR.
B. E. W. Stout.

SERGEANTS.
C. G. Taylor.
F. H. Lawson.
T. H. Becker.

SERGEANTS.
J. S. Curtis.
P. Blumenthal.

CORPORALS.
C. Taylor.
C. G. Haynes.
L. P. Francis.
T. C. Bell.
N. R. Denham.

### BATTERY.

CAPTAIN.
G. S. Adair.

FIRST LIEUT.
H. L. Cornelison.

SEC. LIEUT.
W. V. McFerran.

1ST. SERGEANT.
J. T. Neighbors.

SERGEANTS.
H. E. Eifort.
D. C. Estill.

CORPORALS.
P. B. Blakemore.
P. H. Glass.

## POST-GRADUATES.

| | |
|---|---|
| Amoss, Harold Lindsay, B. S., | Washington, D. C. |
| Hart, Benjamin Robert, B. S., | Pisgah. |
| Kelly, William Cobb, B. C. E., | Denison, Tex. |
| Mahoney, Margaret Elizabeth, B. S., | Bedford. |
| Mustaine, W. Walter H., B. S., | Lexington. |
| Puckett, Homer, B. C. E., | St. Louis, Miss. |
| Schoene, William Jay, B. Agr., | Geneva, N. Y. |
| Terrell, Robert Craig, B. C. E., | Bedford. |
| Whitlock, Albert Newlon, A. B., | Richmond. |
| Wilson, Henry Clay, A. B., | Mt. Olivet. |

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## UNDERGRADUATES.

### SENIORS.

| | | |
|---|---|---|
| Acker, Robert Lewis | Civ. Eng | Paducah. |
| Alexander, Josie | Classical | Paris. |
| Allan, John Griffin | Civ. Eng | Owensboro. |
| Ammerman, John Roger | Mech. Eng | Cynthiana. |
| Baer, Stanley T | Civ. Eng | Louisville. |
| Bagby, Mary Logan | Classical | Danville. |
| Beatty, John Charles | Mech. Eng | Muirs. |
| Boggess, Louis Sterling | Civ. Eng | Lawrenceburg. |
| Branson, Don Pedro | Agricultural | Dye. |
| Brown, William Waters | Civ. Eng | Shelbyville. |
| Carmody, Catherine | Classical | Mt. Sterling. |
| Carse, Robert Allen | Mech. Eng | Richmond. |
| Coleman, Samuel Boin | Civ. Eng | Elkton. |
| Craig, Berrywick Staley | Mech. Eng | Versailles. |
| Cram, Ambrose Byrd | Civ. Eng | Morgan. |
| Crawley, Alice Lyle | Classical | Louisville. |
| Crenshaw, Anne Scott | Classical | Versailles. |
| Denham, Ernest Meyers | Civ. Eng | Williamsburg. |
| Dodd, Daniel Jackson | Civ. Eng | Lexington. |
| Donan, Arthur Liston | Civ. Eng | Three Springs. |
| Dowling, Anna | Classical | Louisville. |
| Edgar, Graham | Scientific | Lexington. |
| Estill, David Chenault | Mech. Eng | Farmdale. |
| Farrell, Walter Augustus | Mech. Eng | Dalton. |
| Gordon, Flora McPheeters | Classical | Frankfort. |
| Grunwell, Paul Clifton | Mech. Eng | Woodbine, Md. |
| Hamilton, William Shacklette | Classical | Brandenburg. |
| Hart, Robert Singleton | Classical | Pisgah. |

| | | |
|---|---|---|
| Herman, Joseph George | Civ. Eng | Newport. |
| Hillenmeyer, Louis Edward | Agricultural | Lexington. |
| Howard, Guyley Benton | Mech. Eng | Rockvale. |
| Karsner, Albert Sharkey | Civ. Eng | Lexington. |
| Kirby, Augustus Montillmon | Classical | Butler. |
| Kornfeld, Louise Marie | Scientific | Louisville. |
| Lawson, Fayette Hewitt | Mech. Eng | Shively. |
| Lazarus, Goldye Theo | Scientific | Louisville. |
| Letton, James Hervey | Civ. Eng | Paris. |
| Lewis, Leo Logan | Mech. Eng | Lexington. |
| Lewis, Viola Cosby | Classical | Louisville. |
| Lockridge, Mary Andrew | Classical | Mt. Sterling. |
| Maddox, Florence May | Scientific | Murfreesboro, Tenn. |
| Madison, James Talbot | Civ. Eng | Cynthiana. |
| Mahan, Charles Alfred | Agricultural | Lancaster. |
| Martin, Sadie Spears | Classical | Visalia. |
| McClelland, Thomas Brown | Classical | Lexington. |
| McKinney, Walter | Civ. Eng | Mt. Salem. |
| Nicholas, Evelyn Van Meter | Classical | Lexington. |
| Nicholls, William Durrett | Agricultural | Bloomfield. |
| Ott, Thomas Foreman | Scientific | Lexington. |
| Parrish, Charles Swift | Classical | Lexington. |
| Paulin, Frank Chester | Civ. Eng | Springfield, Ill. |
| Rankin, Fred Jones | Mech. Eng | Monticello. |
| Rees, Elijah Latham | Civ. Eng | Lexington. |
| Rule, Perrin | Mech. Eng | Falmouth. |
| Scearce, George Gwyn | Scientific | Frankfort. |
| Schoene, Charles Edgar | Mech. Eng | Henderson. |
| Shannon, Philip Francis | Civ. Eng | Frankfort. |
| Smith, Ina Kay | Classical | Lexington. |
| Spears, Howell Davis | Scientific | Lexington. |
| Sprague, Joseph Miles | Mech. Eng | Caseyville. |
| Stigers, James Francis | Civ. Eng | Frankfort. |
| Stiles, Mildred | Classical | Muncie, Ind. |
| Strachan, George Morris | Civ. Eng | Louisville. |
| Sumner, Gordon | Civ. Eng | Greenville. |
| Thomas, John William | Mech. Eng | Georgetown. |
| Thorne, James Webstein | Mech. Eng | Louisville. |
| Towery, Beverly Todd | Classical | Marion |
| Wallis, Elizabeth Ward | Scientific | Lexington. |
| Webster, Margaret Butler | Classical | Louisville. |
| Woodward, William Drane | Civ. Eng | Beaver Dam. |
| Yager, John Joel | Mech. Eng | Leitchfield. |

## JUNIORS.

| | | |
|---|---|---|
| Adair, George Stolworthy | Mech. Eng | Paris. |
| Allen, Lutie Darnall | Classical | Lexington. |
| Babbage, Arthur Wallace | Classical | Cloverport. |
| Battaile, James Frank | Mech. Eng | Lexington. |
| Beaumont, Arthur Bishop | Scientific | Mayfield. |
| Becker, Theodore | Mech Eng | Beard. |
| Bennett, Clarence Lawson | Mech. Eng | Narrows, O. |
| Blessing, Paul Nestle | Mech. Eng | Carrollton. |
| Bogard, George Taylor | Mech. Eng | Golden Pond. |
| Bowden, Aberdeen Orlando | Classical | Sedalia. |
| Bowlds, Fleming | Scientific | Philpot. |
| Boyd, Hattie Elizabeth | Classical | Louisville. |
| Brewer, Bruce Elder | Agricultural | Williamstown. |
| Brewer, Leo | Classical | Mayfield. |
| Brockman, George Frederick | Min. Eng | Louisville. |
| Browning, John Keith | Mech. Eng | Maysville. |
| Bryant, Thomas Ripley | Agricultural | Eminence. |
| Buckner, Ellen Simpson | Classical | Lexington. |
| Buckner, Garrett Davis | Scientific | Lexington. |
| Carmody, John | Mech. Eng | Mt. Sterling. |
| Carter, Sarah McEachin | Classical | Lexington. |
| Chinn, Aubyn | Classical | Frankfort. |
| Clay, Roby Wornall | Min. Eng | Lexington. |
| Cornelison, Herbert LeGrand | Mech. Eng | Richmond. |
| Craft, Morgan Tennyson | Classical | London. |
| Crowder, Margaret Lee | Classical | Sinai. |
| Curtis, James Stewart | Mech. Eng | Lexington. |
| Daugherty, Helen Lucile | Classical | Paris. |
| Denham, Newton Randolph | Min. Eng | Williamsburg. |
| Downing, Harry Hardesty | Civ. Eng | Lexington. |
| Earle, Irbe Benjamin | Civ. Eng | Madisonville. |
| Elam, Arthur Mathew | Mech. Eng | Ashland. |
| Frost Minnie Carfield | Classical | Louisville. |
| Galloway, Clinton Robert | Mech. Eng | Falmouth. |
| Graham, Frank Heber | Mech. Eng | Bowling Green. |
| Grannis, James Kidwell | Civ. Eng | Flemingsburg. |
| Green, Warren Thornton | Mech. Eng | Worthville. |
| Guerrant, Russell Hamilton | Mech. Eng | Wilmore. |
| Hamilton, Wilhelm Perry Browning | Mech. Eng | Lexington. |
| Hanna, Ailine | Classical | Lexington. |
| Hartfield, Rosalie Amelia | Classical | Henderson. |
| Heenan, Joseph Harper | Scientific | West Point. |
| Herring, Henry Lemuel | Mech. Eng | Oakville. |

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|---|---|---|
| Holland, Reuben Miller | Classical | Whiteville. |
| Howerton, Thomas McCluskey | Civ. Eng | Shelbyville. |
| Humphrey, Robert Andrew | Mech. Eng | Lexington. |
| Hutchcraft, David Keller | Mech. Eng | Lexington. |
| Kelley, Cott C | Civ. Eng | Hickory Flat. |
| Kiesel, Walter Christian | Mech. Eng | Carrollton. |
| Kirk, Estill | Civ. Eng | Philpot. |
| Kirk, Maurice Cushman | Civ. Eng | Maysville. |
| Lewis, James Alfred Campbell | Classical | London. |
| Martin, Grace Lee | Classical | Lexington. |
| Mathers, Albert Marion | Mech. Eng | Carlisle. |
| Matthews, William Chamberlain | Mech. Eng | Mayslick. |
| McCorkle, Graham King | Mech. Eng | Eminence. |
| Metzler, Daniel | Mech. Eng. | Louisville. |
| Newberger, Wallace | Min. Eng | Louisville. |
| Oldham, Edwin Bronston | Mech. Eng | Lexington. |
| Orr, Thomas James | Mech. Eng | Princeton. |
| Pence, Christina | Classical | Lexington. |
| Penrod, Alphon | Mech. Eng | Lexington. |
| Pogue, Joel Laytham | Mech. Eng | Mayslick. |
| Porter, Colton Alexander | Mech. Eng | Louisville. |
| Powell, Jeremiah Harrison | Classical | Richmond. |
| Poynter, Arthur Lawrence | Mech. Eng | Royse, Texas. |
| Rice, Clayton Jefferson | Civ. Eng | Greenville. |
| Rodes, William, Jr. | Scientific | Lexington. |
| Roswell, Charles Miller | Mech. Eng | Spartan. |
| Sampson, Reid Johnson | Min. Eng. | Middlesboro. |
| Samuel, Robert Lovell | Mech. Eng | Maysville. |
| Scherffins, Benjamin Franklin | Agricultural | Lynnville. |
| Shaw, Lillian Belle | Classical | Jetts. |
| Shelby, William Washington, Jr. | Min. Eng | Henderson. |
| Sims, Robert Lee | Mech. Eng | Lexington. |
| Smiley, Proctor Knott | Mech. Eng. | Catlettsburg. |
| Smith, Milton Sears | Mech. Eng. | Nicholasville. |
| Steele, Arthur Winslow | Mech. Eng. | Yarnallton. |
| Stone, Neville Earl | Civ. Eng | Hopkinsville. |
| Sweeny, Sunshine | Classical | Lexington. |
| Taliaferro, Robert Ryland | Mech. Eng. | Pedro, Va. |
| Taylor, Guy Baker | Scientific | Lexington. |
| Taylor, Newton Stout | Mech. Eng | Carrollton. |
| Walker, Madie Lee | Classical | Lexington. |
| Wanless, Margaret Jane | Classical | Louisville. |
| Wathen, Ben Hudson | Mech. Eng | Sturgis. |
| Watson, James Saffel | Civ. Eng. | Lexington. |
| Wells, Emery | Civ. Eng. | Lexington. |

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|---|---|---|
| Wilhoite, Arza Lytle | Mech. Eng. | Utica. |
| Wilkes, Francis.. | Mech. Eng. | Washington. |
| Wilson, Carter Lindsay | Mech. Eng. | Louisville. |
| Wilson, James Morrison | Civ. Eng. | Louisville. |
| Wilson, Robert Clyde | Mech. Eng. | Lexington. |
| Yates, Howard Clifford | Classical | Covington. |

## SOPHOMORES.

| | | |
|---|---|---|
| Akers, Mary Elizabeth | Classical | Lexington. |
| Akers, Susan Grey | Classical | Lexington. |
| Alden, William Oliver | Civ. Eng. | Petersburg. |
| Allison, Leonidas Metcalf | Mech. Eng. | Carlisle. |
| Barbee, Richard Carroll | Civ Eng. | Lexington. |
| Batts, Lindsay Alpheus | Mech. Eng. | New Castle. |
| Bean, Louis Vimont | Civ. Eng. | Lexington. |
| Becker, Gus Williams | Mech. Eng. | Louisville. |
| Bell, Benjamin Duncan | Civ. Eng. | Nicholasville. |
| Bell, Thomas Clelland | Civ. Eng. | Harrodsburg. |
| Bennett, Edgar | Mech. Eng. | Basan Springs. |
| Bewlay, Willard Crawford | Mech. Eng. | Lexington. |
| Blumenthal, Philip Lee | Scientific | Lexington. |
| Boales, Maxwell Ellis | Mech. Eng. | Hopkinsville. |
| Bright, Roberta May | Scientific | Lexington. |
| Burgess, Frederick Arthur | Mech. Eng. | Louisville. |
| Bywater, Norbert William | Mech. Eng. | Louisville. |
| Cabrera, Pedro Rafael | Agricultural | Managua, Nic. |
| Cannon, Harry Sharp | Classical | Nicholasville. |
| Carroll, Tarlton Combs | Classical | Louisville. |
| Cawood, Frank Finley | Civ. Eng. | Harlan. |
| Chambers, Joseph Floyd | Civ. Eng. | Owensboro. |
| Cheek, Marion Case | Civ. Eng. | Fulton. |
| Chisholm, Otho B. | Agricultural | Acton. |
| Clarke, Mary Erd | Classical | Lexington. |
| Cook, Holton. | Civ. Eng. | Mt. Sterling. |
| Coons, William Lester | Civ. Eng. | Lexington. |
| Crawford, Andrew Jackson | Mech. Eng. | Georgetown. |
| Crawford, Tarlton Wade. | Mech. Eng. | Lynn Grove. |
| Crosthwaite, John Scearce | Classical | Lexington. |
| Davis, Harry Arnold | Scientific | Maysville. |
| Dean, William Johnson | Civ. Eng. | Owensboro. |
| Doss, George Foree. | Mech. Eng. | Shelbyville. |
| Dufour, Thomas Perry.. | Mech. Eng. | Carrollton. |
| Duncan, James William. | Civ. Eng. | Lexington. |
| Edwards, Kenneth Scott | Mech. Eng. | Ludlow. |
| Eifort, Harvey Earle | Mech. Eng. | Ashland. |

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|---|---|---|
| Elgin, Jeff Craig | Civ. Eng | Paris. |
| Ellis, Cecil Bryant | Classical | Tracy. |
| Fishback, James Morgan | Mech Eng | Pine Grove. |
| Galt, Laura Talbot | Classical | Jeffersontown. |
| Garman, Frederick | Scientific | Lexington. |
| Garvin, Cecil Clement | Civ. Eng | Olive Hill. |
| Gilbert, James William | Mech. Eng | Owensboro. |
| Greathouse, William McCoy | Mech. Eng | Hawesville. |
| Haff, Robert Schuyler | Civ. Eng | Frankfort. |
| Hamilton, Alexander Phillips | Min. Eng. | Uniontown. |
| Hardesty, Lizzie Belle | Scientific | Muir. |
| Harp, William David | Civ. Eng. | Lexington. |
| Harrison, Erbie Lee | Classical | Glasgow. |
| Haynes, Clyde Givens. | Mech. Eng | Morganfield. |
| Haynes, Louise | Scientific | Aurora, Ill. |
| Horine, Ernest England | Mech. Eng | Nicholasville. |
| Horine, John Sherman | Mech. Eng | Nicholasville. |
| Hudgins, Thomas Frederick | Mech. Eng | Olive Hill. |
| Hudson, William Edward | Civ. Eng | Godfrey. |
| Jablow, Charles | Mech. Eng | Louisville. |
| Johns, Charles Ashley | Mech. Eng | Lexington. |
| Johnson, Betsey Herndon | Classical | Muir. |
| Kaufman, Sarah Rachel | Scientific | Lexington. |
| King, Abner William | Mech. Eng | Cox's Creek. |
| Lee, Wallace Caplinger | Classical | Campbellsburg. |
| Leigh, Florence Bascom | Classical | Little Rock, Ark. |
| Letton, Harry Thomas | Agricultural | Carlisle. |
| Logan, Emmett | Agricultural | Bowling Green. |
| Lowry, Hiter H., Jr | Mech. Eng | Nicholasville. |
| Maddox, Robert Lytton | Classical | Mayfield. |
| Marks, Louis Thornton | Mech. Eng | Versailles. |
| Mastin, James Edward | Agricultural | Versailles. |
| McCandless, Helen Louise | Scientific | Louisville. |
| McCutcheon Jesse Robert | Mech. Eng | Beattyvllle. |
| McDowell, William Cochran | Civ. Eng | Lexington. |
| McGarvey, Henry Earl | Classical | Lexington. |
| McNamara, William Ignatius | Mech. Eng | Lexington. |
| Moore, Virgil Yandell | Classical | Marion. |
| Neblett, Patrick Henry | Classical | Turner's Station. |
| Neighbors, Jesse Thomas | Mech. Eng | Glendale. |
| Oberdorfer, Henrietta | Classical | Paris. |
| Orem, Eugene Bryant | Min. Eng | Campbellsburg. |
| Orem, Virgil Campbell | Agricultural | Campbellsburg. |
| Power, Henry Carroll | Mech. Eng. | Flemingsburg. |
| Price, Lucille | Classical | Paris. |

| | | |
|---|---|---|
| Rankin, Harry Lee | Mech. Eng. | Monticello. |
| Rapier, Stephen Augustus | Mech. Eng. | Bardstown. |
| Reidel, Gus | Mech. Eng. | Holt. |
| Rice, Harvey Jefferson | Mech. Eng. | Maysville. |
| Robinson, Benjamin Franklin | Civ. Eng. | Lexington. |
| Rodes, Mary | Classical | Lexington. |
| Ryan, Charles Obie | Classical | Monticello. |
| Sanders, Hugh Berkley | Scientific | Kirkwood. |
| Sayers, Warner Paul | Mech. Eng. | Erlanger. |
| Schultz, Oscar Lewis | Civ. Eng. | Hartford. |
| Scott, George Thomas | Agricultural | Earles. |
| Sellman, Robert Jesse | Mech. Eng. | Nicholasville. |
| Shankland, Marshall Wood | Civ. Eng. | Lexington. |
| Shanklin, Shelby | Mech. Eng. | Lexington. |
| Simmons, James McCreary | Scientific | Richmond. |
| Smarr, Roy Whitaker | Civ. Eng. | Brooksville. |
| Speyer, Harry Aaron | Scientific | Lexington. |
| Stackhouse, William Owsley | Classical | Lexington. |
| Stivers, Mattie | Classical | Paris. |
| Stout, Benjamin Stewart | Civ. Eng. | Owensboro. |
| Strachan, Harry Morris | Scientific | Louisville. |
| Swearingen, William Roy | Civ. Eng. | N. Middletown. |
| Talbott, David Cline | Mech. Eng. | N. Middletown. |
| Taylor, Humphrey Wood | Mech. Eng. | Washington. |
| Tigert, John James | Mech. Eng. | Louisville. |
| Townsend, Hal Eubanks | Mech. Eng. | Bowling Green. |
| Umethun, Albert Howard | Mech Eng. | Frankfort. |
| Veal, Guy Roscoe | Classical | Sedalia. |
| Wallace, Leonard DeLong | Classical | Lexington. |
| Warren, Thomas Philip | Mech. Eng. | Lexington. |
| Wells, Charles D. | Civ. Eng. | Bardstown. |
| White, Charles | Mech. Eng. | Warsaw. |
| Williams, Byron Demetrius | Mech. Eng. | Auburn. |
| Willmott, James Franklin | Mech. Eng. | Hutchison. |
| Wilson, Benjamin Dunbar | Scientific | Lexington. |
| Worthington, Elmer Francis | Agricultural | Morgan. |
| Yankey, Andrew George | Civ. Eng. | Springfield. |

## FRESHMEN.

| | | |
|---|---|---|
| Adams, Robert William | Scientific | Henderson. |
| Alcorn, John G. Carlisle | Civ. Eng. | Hustonville. |
| Atkins, Robert Ryland | Mech. Eng. | Lexington. |
| Bain, Charles Kremer | Mech. Eng. | Lexington. |
| Ball, Edward Church | Mech. Eng. | Maysville. |
| Ballard, Joseph Hogan | Civ. Eng. | Bryantsville. |

| | | |
|---|---|---|
| Barker, Richard McLean | Civ. Eng. | Adairville. |
| Baum, Adam Cooley | Mech. Eng | Mt. Sterling. |
| Best, Thomas Doniphan | Civ. Eng | Maysville. |
| Blakemore, Page Blanton | Min. Eng | Hopkinsville. |
| Bodkin, Jesse Thomas | Mech. Eng | Bardwell. |
| Bridges, Leonard Cabell | Mech. Eng | Stamping Ground. |
| Brown, Lawrence Edward | Mech. Eng | Somerset. |
| Brown, Robert Harold | Classical | Warsaw. |
| Bunnell, Harry Ethelbert | Mech. Eng | New York, N. Y. |
| Burchfield, James Ralph | Min. Eng | Pineville. |
| Burguieres, Henry Isidore | Scientific | New Orleans, La. |
| Campbell, Harry Joseph | Civ. Eng, | Vanceburg. |
| Campbell, John | Mech. Eng | Butler. |
| Cardwell, John Wesley | Mech. Eng. | Harrodsburg. |
| Carpenter, John Irving | Mech. Eng. | Lawrenceburg. |
| Carpenter, Hubert Craig | Mech. Eng | Stanford. |
| Carr, Haviland | Scientific | Claysville. |
| Cassady, Marietta Finley | Classical | Versailles. |
| Caudill, Emery Stephen | Civ. Eng | Whitesburg. |
| Chapman, Glover Kirk | Civ. Eng | Owensboro. |
| Clarke, Gus | Mech. Eng. | Lexington. |
| Clugston, William George | Classical | Lexington. |
| Collins, Lelah Truman | Classical | Morganfield. |
| Cram, Royalston Haywood | Mech. Eng. | Morgan. |
| Creal, Hugh Raymond | Civ. Eng | Buffalo. |
| Crowder, Myrtie Florence | Classical | Sinai. |
| Curtis, John Jay | Mech. Eng | Greendale. |
| Darnall, Paul Davidson | Mech. Eng | Carlisle. |
| Dawson, John Stanley | Mech. Eng | Bloomfield. |
| Dorman, James Caldwell | Mech. Eng | Nicholasville. |
| Dunn, John William | Mech. Eng | Lancaster. |
| Eastwood, George Robert | Agricultural | Madisonville. |
| Estes, Jordon Grove | Civ. Eng | Lebanon. |
| Ewan, Avery Early | Agricultural | Helena. |
| Ford, Bascom Carlisle | Mech. Eng | Lancaster. |
| Fox, Walter Cuthbert | Civ. Eng | Newport. |
| Franklin, Anna | Mech. Eng | Lexington. |
| Garrett, John Wilmore | Mech. Eng | Fort Garrett. |
| Garvin, John | Mech. Eng | Olive Hill. |
| Gay, Newton Mitchell | Classical | Pisgah. |
| Giltner, James Bristow | Mech. Eng | Carrollton. |
| Ginn, Eloise Elizabeth | Classical | Lexington. |
| Glass, Rhoda Virginia | Classical | Lexington. |
| Goldnamer, Marcus Sunthemer | Classical | Princeton. |
| Goldthwaite, Thomas Petree | Mech. Eng | Hopkinsville. |

| | | |
|---|---|---|
| Gorey, Robert Charles | Civ. Eng | Paris. |
| Graham, Lawrence Buchanan | Mech. Eng | Bowling Green. |
| Grimes, John Frank | Mech. Eng | Lexington. |
| Gullion, Walter Cyrus | Mech. Eng. | New Castle. |
| Hancock, Robert Hill | Mech. Eng | Corydon. |
| Hart, George Denny | Mech. Eng | Lexington. |
| Hayden, Mary Elizabeth | Classical | Lewisport. |
| Hays, Thomas Hercules | Mech. Eng | Versailles. |
| Hendrickson, George Matt | Min. Eng | Pineville. |
| Hopgood, John Allen | Civ. Eng | Morganfield. |
| Hopkins, Mrs. N. P | Mech. Eng | Lexington. |
| Hord, Winn Estill | Scientific | Maysville. |
| Horine, Irving | Mech. Eng | Nicholasville. |
| Hudson, Halcomb | Classical | Lexington. |
| Hughes, Joseph Irvine Craig | Mech. Eng | Versailles. |
| Hughes, James Melvin | Civ. Eng | Lexington. |
| Hunt, George Gordon | Mech. Eng | Lexington. |
| Irvin, Oscar William | Scientific | Greenville. |
| Jackson, Samuel Texas | Civ. Eng | Clinton. |
| Jackson, William Oscar | Mech. Eng | Harrodsburg |
| Jett, Shelby | Mech. Eng | Richmond. |
| Johnston, William Bradley | Mech. Eng | Lancaster. |
| Jones, Lida | Scientific | Lexington. |
| Kimbrough, Marion Lytle | Mech. Eng. | Lexington. |
| Kimbrough, Otho Lee | Civ. Eng | Lexington. |
| Kirk, Theodore Tilton | Civ. Eng | Owensboro. |
| Koltingky, Samuel Kaufman | Mech. Eng | Princeton. |
| Lane, William Walter | Mech. Eng | Winchester. |
| Lewis, Edward Hugh | Civ. Eng | College Hill. |
| Lisle, Andrew | Civ. Eng | Richmond. |
| Logan, Benjamin Harrison | Mech. Eng | West Fork. |
| Logan, Dulaney | Mech. Eng | Bowling Green. |
| Lusk, Joseph Sherwood | Civ. Eng | Dayton. |
| Marshall, Caleb Wallace | Civ. Eng | Lexington. |
| May, Ollie Lewis | Civ. Eng | John. |
| Mayhall, Creston Clark | Scientific | Somerset. |
| Mayhall, Russell Collins | Mech. Eng | Frankfort. |
| McCarroll, Charles | Mech. Eng | Hopkinsville. |
| McCarthy, Charles Bernard | Civ. Eng | Paris. |
| McCauley, Gentry Elliott | Mech. Eng | Versailles. |
| McCaw, Chesley Abbott | Civ. Eng | Versailles. |
| McClure, Arthur Clay | Mech. Eng | Winchester. |
| McClure, Francis Jasper | Mech. Eng | Danville. |
| McDonald, John William | Classical | Mayfield. |
| Miller, Cyril | Scientific | Golden Pond. |

| | | |
|---|---|---|
| Miller, Humphrey | Mech. Eng. | New Hope. |
| Milligan, Vincent Bartlett | Mech. Eng. | Lexington. |
| Mills, George Pemberton | Mech. Eng. | Lexington. |
| Mills, Grover Cleveland | Mech. Eng. | Kenton. |
| Montgomery, James Jackson | Mech. Eng. | Georgetown. |
| Moore, John Bornman | Civ. Eng. | Harrodsburg. |
| Mosby, William Eugene | Civ. Eng. | Bardwell. |
| Naylor, Floyd Reed | Civ. Eng. | Hickman. |
| Nelson, Harry | Civ. Eng. | Uniontown. |
| Nollau, Walter Charles | Mech. Eng. | St. Louis, Mo. |
| Norton, James William | Min. Eng. | Carlisle. |
| O'Day, Margaret | Mech. Eng. | Lexington. |
| Orem, Joseph Luther | Agricultural | Campbellsburg. |
| O'Roark, Lauren Snyder | Mech. Eng. | Cannel City. |
| Parker, Preston Piper | Civ. Eng. | Maysvillle. |
| Patton, William Stanhope | Mech. Eng. | Catlettsburg. |
| Paynter, Walker Bert | Mech. Eng. | Lawrenceburg. |
| Peavyhouse, William Wesley | Civ. Eng. | Hustonville. |
| Pence, Mary Belle | Classical | Lexington. |
| Peratt, William Hurst | Mech. Eng. | Ewing. |
| Perrine, Emmett Burgess | Mech. Eng. | Maysville. |
| Poindexter, Robert Harold | Scientific | Cynthiana. |
| Posey, Buckner D. | Mech. Eng. | Henderson. |
| Post, Shelby | Mech. Eng. | Kingston, N. Y. |
| Powell, Frank Congleton | Civ. Eng. | Carlisle. |
| Prewitt, William Wathen | Mech. Eng. | Osceola, Ark. |
| Price, Sterling | Min. Eng. | Winchester. |
| Pride, L. Bailey | Civ. Eng. | Morganfield. |
| Redd, Herman Thornton | Mech. Eng. | London. |
| Reddish, William Dandridge | Scientific | Somerset. |
| Reed, Levi McKee | Mech. Eng | Harrodsburg. |
| Reid, Eleanora | Classical | Edmonton. |
| Reiter, Wilhelm Arthur | Min. Eng. | Fredonia. |
| Rembold, Elmer Louis | Scientific | Owensboro. |
| Riefkin, Jacob B | Mech. Eng. | Newport. |
| Riggs, Schulty | Classical | Calhoun. |
| Robertson, Isaac Williams | Scientific | Smithland. |
| Robinson, Claude Burge | Mech. Eng. | Georgetown. |
| Schachle, Stephen Andrew | Civ. Eng. | Butler. |
| Scherffius, Frederick Fanon | Agricultural | Lynnville. |
| Shaw, Ethel Cardwell | Scientific | Versailles. |
| Shelby, Joseph Bryan | Mech. Eng. | Lexington. |
| Shryock, William Mason | Civ. Eng. | Lexington. |
| Shuff, Evan Layton | Mech. Eng. | Georgetown. |
| Sisco, Pope. | Mech. Eng. | Bardstown. |

| | | |
|---|---|---|
| Slade, Theodore | Mech. Eng. | Lexington. |
| Smith, Bowers | Mech. Eng. | Lexington. |
| Smith, Guy Warren | Mech. Eng. | Lexington. |
| Smith, Hal Walker | Civ. Eng. | Heuderson. |
| Stahel, Leslie Conrad | Civ. Eng. | Versailles. |
| Stephenson, Harry Elmore | Mech. Eng. | Mt. Sterling. |
| Stevens, Jesse Guyer | Mech. Eng. | Princeton. |
| Stevenson, Wilbur Wesley | Mech. Eng. | Fulton. |
| Stivers, Harry Sherman | Civ. Eng. | Paris. |
| Sugg, John Alonzo, Jr. | Agricultural | Morganfield. |
| Taylor, Carroll Gholson | Mech. Eng. | Lexington. |
| Thrasher, Marion Francis | Civ. Eng. | Hawesville. |
| Utterback, Wallace | Scientific | Lawrenceburg. |
| Walker, Horace Lackey | Scientific | Lancaster. |
| Wallis, Nell Virginia | Scientific | Lexington. |
| Webb, Earl Benton | Classical | Willard. |
| Wickersham, John Thomas | Scientific | Lebanon Junc. |
| Wilcox, John Henry | Scientific | Elkin. |
| Wilson, Judson Abram | Agricultural | Henderson. |
| Winston, Algernon Sidney | Civ. Eng. | Sturgis. |

SPECIAL STUDENT.

| | | |
|---|---|---|
| White, Clara Warland | Scientific | Lexington. |

STUDENTS OF THE SHORT COURSE IN AGRICULTURE.

| | |
|---|---|
| Case, John Henry | Lawrenceburg. |
| Field, John Utterback | Versailles. |
| Garrett, Robert | Ft. Garrett. |
| Herring, Arthur Philip | Oakville. |
| McFerran, Warren Viley | Versailles. |
| Nicholls, Archibald Axton | Bloomfield. |
| Railsback, Edgar | Winchester. |
| Seltsam, Henry | Junction City. |
| Smith, Carl Campbell | Dixon. |
| Snyder, Milton Kirkwood | Lexington. |

## NORMAL STUDENTS.

FOR THE STATE DIPLOMA.

| *Name.* | *Post-Office.* | *County.* |
|---|---|---|
| Boyd, Armanella | Canton | Trigg. |
| Brown, Ira Clay | Humphrey | Casey. |
| Bruner, Jacob Franklin | Whitesville | Daviess. |
| Cranfill, St. Elmo Murray | Cora | Anderson. |

| | | |
|---|---|---|
| Creekmore, Ross Addison | Lexington | Fayette. |
| Curd, Lillian Virginia | Wilmore | Jessamine. |
| De Jarnett, John Franklin | Hawesville | Hancock. |
| Dodson, Walter Cleveland | Monticello | Wayne. |
| Doris, William Ivan | Dixie | Webster. |
| Dunlap, George Green | Dry Ridge | Grant |
| Fried, Sienna | Lexington | Fayette. |
| Fuqua, Cordie Cothen | Fordsville | Ohio. |
| Glass, James Howard | Rockdale | Owen. |
| Golladay, Myrtle | Gracey | Christian. |
| Hail, Alice Cary | Somerset | Pulaski. |
| Hamilton, Lucien | Edmonton | Metcalfe. |
| Hamilton, Tillie Katherine | Myers. | Nicholas. |
| Hazelrigg, Herbert Eben | Masonville | Daviess. |
| Holbrook, John Pendleton. | Livia | McLean. |
| Hoover, Ola | Friedaland | Ohio. |
| Hutchison, Lyle | Nepton | Fleming. |
| Jenkins, Troy | Mayfield | Graves. |
| Johns, Alice | Lexington | Fayette. |
| Lewis, James Otis | Stanley.. | Daviess. |
| Mahoney, Elizabeth | Lexington | Fayette. |
| Nicholas, Evelyn | Lexington | Fayette. |
| Payne, Howard | Cold Spring | Campbell. |
| Rice, Herman John | Chambers | Hancock. |
| Roache, Joel Hayden | Fordsville | Ohio. |
| Routt, Grover Cleveland | Stinnett | Anderson. |
| Skeens, Jimison | Louisa | Lawrence. |
| Stoner, Mary | Hopkinsville | Christian. |
| Terrell, Daniel Voiers | Bedford | Trimble. |
| VanMeter, Margaret Lewis | Lexington | Fayette. |
| Wilson, Meek Boyd | Fulton | Hickman. |

FOR THE STATE CERTIFICATE.

| | | |
|---|---|---|
| Allen, Eva Gertrude | Ekron | Meade. |
| Anderson, Frances Fern | Wilmore | Jessamine. |
| Babb, Harve | Marion | Crittenden. |
| Baird, Obed Elmo | Livia | McLean. |
| Baker, Ethel | Butler | Campbell. |
| Bowman, Harriett Elizabeth | Porter | Scott. |
| Bush, Ethel | Chaplin | Nelson. |
| Carlisle, Floyd Anderson | Belcourt | Webster. |
| Cockerham, Mrs. Mary | Shelbyville | Shelby. |
| Cokendolpher, Bettie | Chaplin | Nelson. |
| Collins, Minerva | Hindman | Knott. |

| | | |
|---|---|---|
| Combs, John Richard | Hazard | Perry. |
| Crossland, Samuel Hess | Maxon's Mill | McCracken. |
| Cunningham, Eleanor | Cadiz | Trigg. |
| Davis, James Edward | Hager | Magoffin. |
| Edwards, Joe William | Boydsville | Graves. |
| Fitzpatrick, John | Liberty | Casey. |
| Florence, David Vanhook | Cynthiana. | Harrison. |
| Florence, Mrs. Alice May | Cynthiana | Harrison. |
| Gordon, Squire Virgil | Lawrenceburg | Anderson. |
| Halcomb, Douglas Irvine | Gordon | Letcher. |
| Hart, Ethel Eleanor | Cynthiana | Harrison. |
| Hart, Martha Jane | Cynthiana | Harrison. |
| Hart, Mary | Lexington | Fayette. |
| Hildreth, Lafayette | Kuttawa | Lyon. |
| Hopper, Lucy | Cadiz | Trigg. |
| Jett, Shelby | Richmond | Madison. |
| Jones, James Arden | Slaughtersville | Webster. |
| Keeton, Arthur | Netty | Magoffin. |
| Kelly, Clement Frances | Jackson | Breathitt. |
| Kirk, Herschel | Owensboro | Daviess. |
| Kirk, John Riley | Philpot | Daviess. |
| Luton, Albert Roscoe | Golden Pond | Trigg. |
| McClain, Anna | Cynthiana | Harrison. |
| Markwell, Anna Walton | Foxport | Fleming. |
| Million, Id. Garnett | Richmond | Madison. |
| Oliver, John Dowell | Hazard | Perry. |
| Peay, Mabel | Willard | Carter. |
| Purdom, Annie Mitchell | Parksville | Boyle. |
| Purdom, Zora Veida | Parksville | Boyle. |
| Robinett, George Mathew | Hager | Magoffin. |
| Russell, Lucy | Ludlow | Boone. |
| Scherffins, Edward George | Lynnville | Graves. |
| Starks, Lulu | South Park | Jefferson. |
| Stephenson, Corbett | Fredonia | Crittenden. |
| Tharp, Charles Shelby | Winston | Estill. |
| Thornberry, Gertrude | Shepherdsville | Bullitt. |
| Thornberry, Rilla Katie | Shepherdsville | Bullitt. |
| Warner, Bessie | Edneyburg | Madison. |
| Wharton, Russell | Valley View | Madison. |
| Wilson. John | Station Camp | Estill, |
| Wilson, Burnam | Station Camp | Estill. |
| Young, Alfred Combs | Cordie | Knott. |

#### FOR THE COUNTY CERTIFICATE.

| | | |
|---|---|---|
| Abshear, John Robert | Booneville | Owsley. |
| Bailey, Octa | Sebree | Webster. |
| Booker, Robert Sidney | Allsboro | Alabama. |
| Broadus, Maggie | Miller's Creek | Estill. |
| Broadus, Myrtle | Miller's Creek | Estill. |
| Brooks, Essie Stanley | Lexington | Fayette. |
| Brown, Bessie Gardner | Manchester | Clay. |
| Bryson, Huston | Fullerton | Greenup. |
| Case, Cornelia Emrine | Lawrenceburg | Anderson. |
| Catlett, Ola Belle | Waddy | Shelby. |
| Crisler, Sadie | Burlington | Boone. |
| Crowder, Mabel | Lexington | Fayette. |
| Elliston, Lillian | Latonia | Kenton. |
| Fishback, Elizabeth | Livingston | Rockcastle. |
| Fletcher, Boyd | Netty | Magoffin. |
| Fowler, Leslie Olin | Madisonville | Hopkins. |
| Gentry, Alvin | Bartlett's Ferry | Ohio. |
| Gregory, Carlin | Owensboro | Daviess. |
| Hanna, Ethel | Cynthiana | Harrison. |
| Haywood, Emmett | Hanson | Hopkins. |
| Henry, Elizabeth | Lexington | Fayette. |
| Howard, Henry Clay | Harlan | Harlan. |
| Huffman, Virgil | Ashland | Boyd. |
| Lewis, John | Hyden | Leslie. |
| Lindon, Heddie | Insko | Morgan. |
| Mays, James Major | Kuttawa | Lyon. |
| Miller, William | Irvine | Estill. |
| Newman, Mrs. Anna | Morgan | Pendleton. |
| Patrick, Malcom | Netty | Magoffin. |
| Rowland, Thomas Allen | Duke | Hancock. |
| Shirley, Ernst | Georgetown | Scott. |
| Wallace, Robert | Canton | Trigg. |
| White, John Gilbert | Bloomingdale | Clark. |
| White, Shelby Taylor | Bloomingdale | Clark. |
| Woolum, Minta Lucas | Morgan | Pendleton. |
| Yates, William Alexander | Vine Grove | Madison. |
| Yeager, Addie May | Van Buren | Anderson. |

## ACADEMY STUDENTS.

#### FIRST YEAR STUDENTS.

| | |
|---|---|
| Atkinson, Clarence Ottie | Stanton. |
| Botts, Marshall Jennings | Lexington. |
| Christopher, Bertha | Buena Vista. |

Daugherty, Annie Louise ........ Paris
Daughetee, Stanley Irwin ........ Sherman.
Donahue, James Franklin ........ Lexington.
Durrett, Morrie ........ Springfiield.
Eastin, Eckford Preston ........ Lexington.
Eubank, Warren Lyddane ........ Lexington.
Farmer, Henry Lester ........ George.
Ferguson, Ruth ........ Guthrie.
Fithian, Harry Brent ........ Paris.
Foley, John Timothy ........ Lexington.
Gardner, Ila Charles ........ Lexington.
Gatz, John Clarence ........ Prospect.
Goodwin, Alva Ella ........ Cerulean.
Goodwin, Joseph Alfred ........ Lexington.
Hardesty, Llewellyn Coons ........ Muir.
Hart, Derrill Wason ........ Pisgah.
Hawkins, Robert Dawson ........ Lexington.
Hill, Duke Watson ........ Mt. Olivet.
Ireland, Thomas Hughes ........ Skillman.
Karsner, Ralph Outten ........ Lexington.
Kunzman, John William ........ Beuchel.
Lynam, Robert Graham ........ Beuchel.
Martin, Virginia Pearl ........ Lexington.
Mayes, James Robert ........ Springfield.
Mulholland, Daniel Edward ........ Georgetown.
Nunnelley, Charles Middleton ........ Greendale.
O'Neil, Martin Pearce ........ Lexington.
Patteson, John Hunt ........ Lexington.
Payne, Whitney Olds ........ Warsaw.
Ragan, Yandell ........ Cold Spring.
Ruble, Irene McGrath ........ Buena Vista.
Sayre, James ........ Lexington.
Scott, Mary Taylor ........ Lexington.
Scott, Sarah Lowery ........ Lexington.
Sharp, Ella Bell ........ Lexington.
Sink, Vernell ........ Lexington.
Stiles, Dorothy ........ Lexington.
Stivers, Ruby ........ Paris.
Talbutt, Allene ........ Lexington.
Turner, Charles Boone ........ Versailles.
Turner, Reuben Tinsley ........ Versailles.
Underwood, Kenneth ........ Birmingham, Ala.
Van Arsdell, Leon Jackson ........ Lexington.
Waugh, Mary Elizabeth ........ Waddy.
Wells, Velma ........ Lexington.
Zweigart, Thomas Frederick ........ Maysville.

### SECOND YEAR STUDENTS.

| | |
|---|---|
| Alexander, John Jay | Wheatley. |
| Baker, Hodge Pomeroy | Kyle. |
| Barrows, Willard Dante | Dixon. |
| Bateman, Roy Atkins | Bradfordsville. |
| Beatty, Thomas Elmer | Smithfield. |
| Bowman, Charles Francis | Lexington. |
| Bush, Robert Lynne | Springfield. |
| Cassidy, Perry Rogan | Lexington. |
| Clarke, Frank Rowland | Owensboro. |
| Clarke, Richard Bate | Chicago, Ill. |
| Cleveland, Minor | Boyd. |
| Collings, Benjamin Hays | Lebanon Junc. |
| Downing, Virgil Leonard | Lexington. |
| Estill, David Sheffer | Lexington. |
| Estill, Robert Rodes | Lexington. |
| Eversole, William Pearl | London. |
| Ferguson, Lillian Terry | Le Centre. |
| Finley, Joseph Buford | Georgetown. |
| Flemming, James Jackson | Birdsville. |
| Foxwell, John Benjamin | Providence. |
| Francis, Louis Panl | Red Ash. |
| Goodwin, George Earley | Lexington. |
| Harn, Walter Andrew | Flemingsburg. |
| Harrison, Thomas Whitney | Lexington. |
| Haswell, Arthur Board | Hardensburg. |
| Henry, Patrick | Clay City. |
| Hill, Hubert McDonald | Falmouth. |
| Hodges, Grover Cleveland | Pinevile. |
| Hollar, Orie Willard | Paris. |
| Hood, David Campbell | Jersey City, N. J. |
| Hughes, Albert | Lexington. |
| Johnson, Joseph Ebert | Waverly. |
| Kinkead, Shelby | Lexington. |
| Kridler, George Matthew | Greenwood. |
| Lancaster, Mary Frazer | Lexington. |
| Louis, William Henry | Hyden. |
| Lisle, Rufus | Versailles. |
| Locke, Isaac Newton | Frankfort. |
| Marshall, Sarah Rosetta | Lexington. |
| Martin, Allen | Lexington. |
| Merchant, George Brite | Sulphur. |
| Morris, Harold Roscoe | Owensboro. |
| Muir, Chester Stewart | Lexington. |
| O'Day, Thomas Michael Joseph | Lexington. |

| | |
|---|---|
| Parker, Samuel Alexander | Maysville. |
| Pittman, Ernest Edgar | Fulton. |
| Pryse, John Stanley | Beattyville. |
| Roche, John Ready | Paris. |
| Rodes, Peter Powell | Lexington. |
| Scherffius, Cleveland Hendricks | Lynnville. |
| Shannon, William James | Lexington. |
| Short, Thompson Bailey | Lexington. |
| Sloan, Jesse Neal | Shelbyville. |
| Staples, Frederick William | Lexington. |
| Thomas, Lester Fosey | Lawrenceburg. |
| Thomson, Lucie Wheeler | Lexington. |
| Toe Water, George Myers | Lexington. |
| Vaughn, Esther Rose | Shelbyville. |
| Wall, Franklin Peirce | Cayce. |
| Wallace, William Abithal | Cerulean. |
| Webb, Richard Spurr | Lexington. |
| Weller, Leslie Neal | Pineville. |
| Willmott, Curtis Simeon | Lexington. |
| Wilson, Homer | Lexington. |
| Wright, Walter Franklin | Manchester. |
| Yates, John McChord | Kington. |

## STUDENTS OF THE SUMMER SCHOOLS.

### I. IN THE NORMAL SCHOOL.

| *Name.* | *Post-Office.* | *County.* |
|---|---|---|
| Acree, Lu Ella | Hazel | Calloway. |
| Adcock, Lois Elizabeth | Hopkinsville | Christian. |
| Agee, Mary | Owenton | Owen. |
| Ball, Anna Frazee | Maysville | Mason. |
| Black, Marvin | Hartford | Ohio. |
| Boltz, Katherine L. | Newport | Campbell. |
| Branscum, Walter | Correll | Wayne. |
| Brashear, Sampson | Hazard | Perry. |
| Burchfield, James | Pineville | Bell. |
| Bush, Gillum | Fountain Run | Barren. |
| Case, William | Lexington | Fayette. |
| Case, John | Lexington | Fayette. |
| Champion, Richard | Hampton | Livingston. |
| Davis, Flaudie | Louisville | Jefferson. |
| Denton, Katie | Lexington | Fayette. |
| Dickson, Kate | Latonia | Kenton. |

| | | |
|---|---|---|
| Dunn, Charles | Morning View | Kenton. |
| Gilbert, Lillian | Lexington | Fayette. |
| Gilchrist, Margaret | Lexington | Fayette. |
| Glass, Inez | Lexington | Fayette. |
| Gray, Ivy | Fairview | Todd. |
| Hahn, Elizabeth | Frankfort | Franklin. |
| Hazelrigg, Jesse | Carlisle | Nicholas. |
| Hensley, Eula | Hardinsburg | Breckinridge. |
| Hogard, Cora | Greensburg | Green. |
| Holbrook, John Pendleton | Livia | McLean. |
| Hubbard, Alpha | Hubbard | Metcalf. |
| Hutchison, Lyle | Nepton | Fleming. |
| Johnson, Maria | Nicholasville | Jessamine. |
| Johnson, Mina | Nicholasville | Jessamine. |
| Kinsolving, Lizzie | Princeton | Caldwell. |
| Kirk, Herschel | Owensboro | Daviess. |
| Kirk, Theodore T | Owensboro | Daviess. |
| Lewis, George M | Tannery | Lewis. |
| Lewis, James Otis | Stanley., | Daviess. |
| Lipscomb, Chatty | Latonia | Kenton. |
| Lovely, Lucille | Cynthiana | Harrison. |
| Maxey, Reuben | Sacremento | McLean. |
| Nickell, Samuel | Cannel City | Morgan. |
| Norvell, Jennie | Carlisle | Nicholas. |
| O'Dell, John | Jones | Ohio. |
| O'Neill, Louise | Lexington | Fayette. |
| Paris, Mayme | Wilsonville | Spencer. |
| Park, Sue Embry | Richmond | Madison. |
| Peed, Dorothy | Millersburg | Bourbon. |
| Pickrell, Claude | Cythia | Daviess. |
| Pinkston, Lelia | Sebree | Webster. |
| Piper, Mary | Lexington | Fayette. |
| Poinsett, Irene | Newport | Campbell. |
| Pullen, Denia | Georgetown | Scott. |
| Quarles, Corinne | Frankfort | Franklin. |
| Reynolds, Welby | Greenup | Greenup. |
| Reeder, Nannie | Hopkinsville | Christian. |
| Rice, Elmer | Petersburg | Boone. |
| Rice, Mrs. E. C | Petersburg | Boone. |
| Rice, Herman J | Chambers | Hancock. |
| Rich, Mary | Morning View | Kenton. |
| Rogers, Anna Gist | Lexington | Fayette. |
| Ross, Lida | Beechmont | Jefferson. |
| Ryle, Elbert | Petersburg | Boone. |
| Scrugham, Mary | Lexington | Fayette. |

| | | |
|---|---|---|
| Shaw, Bettie | Carlisle | Nicholas. |
| Shultz, Claude | Narrows | Ohio. |
| Smith, Everett | Ceralvo | Ohio. |
| Snodgrass, Eugene | Lexington | Fayette. |
| Spears, Clarence | Mayfield | Graves. |
| Springfield, Gertie | Sebree | Webster. |
| Stone, Sallie | Taylorsville | Spencer. |
| Stoner, Mary | Fort Thomas | Campbell. |
| Strauss, Elizabeth | New York City | New York. |
| Sweeney, Katherine | Falmouth | Pendleton. |
| Swinford, Helen | Ludlow | Kenton. |
| Tuttle, Sue | Carlisle | Nicholas. |
| Waldrop, George | Owenton | Owen. |
| Weyman, Harry | Erlanger | Kenton. |
| Williams, Elizabeth | Lexington | Fayette. |

## II. IN PHYSICS.

| | |
|---|---|
| Adcock, Miss L. E | Hopkinsville. |
| Ball, Mrs. A. F | Maysville. |
| Black, Marion | Hartford. |
| Clay, Roby Wornall | Lexington. |
| Fishback, James Morgan | Pine Grove. |
| Holland. R. T. | Paintsville. |
| Kirk, Theodore Tilton | Owensboro. |
| Oldham, Edwin Bronston | Lexington. |
| Park, Mrs. S. E | Richmond. |
| Parrish, Charles Swift | Lexington. |
| Reynolds, W. D | Greenup. |
| Rice, E. C | Petarsburg. |
| Rodes, William | Lexington. |
| Ryle, E. S | Petersburg. |
| Schultz, W. C | Narrows. |
| Smith, Miss Ina K | Lexington. |
| Spears, C. L. | Mayfield. |
| Stoner, Miss Mary | Hopkinsville. |
| Weyman, H. C | Latonia. |

## III. IN MECHANIC ARTS.

| | |
|---|---|
| Ashbrook, C. B. | Cynthiana. |
| Barker, Maxwell. | Louisville. |
| Barnett, T. T. | Louisville. |
| Bennett, C. S. | Lexington. |
| Botts, L. A. | Lexington. |
| Burgess, H. C. | St. Louis, Mo. |
| Carmody, J. P. | Mt. Sterling. |

Craig, B. S....Versailles.
Gensheimer, I. S....Berlin, N. J.
Horine, S....Nicholasville.
Howard, G. B....Rockvale.
Kniess, R....Cambridge, Ind.
Lowry, H. H....Nicholasville.
Mills, G. P....Lexington.
Muncy, V. E....Cincinnati, O.
Perrine, E. B....Maysville.
Sayers, W. P....Erlanger.
Schroeder, E. O....Covington.
Stauffer, O. B....Canton, O.
Trice, J. B....Hopkinsville..
Yager, J. J....Leitchfield.

## IV. IN LIBERAL ARTS.

Alexander, Jay....Wheatley.
Adair, George Stalworthy....Paris.
Bain, Charles Kremer....Lexington.
Babbage, Arthur Wallace....Cloverport.
Barker, Richard McLean....Keysburg, Tenn.
Becker, Theodore Henry....Louisville.
Blumenthal, Philip....Lexington.
Bodkins, Jesse Thomas....Bardwell.
Bowden, Aberdeen Orlando....Sedalia.
Buckner, Garrett Davis....Lexington.
Cabrera, Pedro Rafael....Managua, Nic.
Campbell, Elmer Titus....Lexington.
Cassell, Steve Garland....Lexington.
Cassidy, Perry Rogan....Lexington.
Clay, Roby Wornall....Lexington.
Clugston, William George....Lexington.
Coons, William Lester....Lexington.
Dean, Willis Johnson....Owensboro.
Fish, Thomas Gives....Lexington.
Fishback, James Morgan....Pine Grove.
Glass, Rhoda Virginia....Lexington.
Hanna, Aline Guthrie....Lexington.
Hardesty, Lizzie Belle....Muir.
Hayman, John Henry....Lexington.
Helman, Mabel R....Ludlow.
Hill, Hubert McDonald....Lenoxburg.
Holland, Robert Thomas....Paintsville.
Hood, David Campbell....Jersey City, N. J.
Jones, Joel Lee....Cynthiana.

Jones, Lida........................................................Lexington.
Kinkead, Shelby...................................................Lexington.
Kirk, Theodore Tilton...........................................Owensboro.
Maddox, Robert Lee.............................................Mayfield.
Marshall, Caleb Wallace.......................................Lexington.
McAlister, George Matthew...................................Lexington.
McConnell, Sam Lewis.........................................Lexington.
McFerran, William Viley.......................................Versailles.
McNamara, William Ignatius.................................Lexington.
Miller, Jesse.........................................................Lexington.
Muncy, Victor Emanuel.........................................Cincinnati, O.
Norton, James William.........................................Carlisle.
Oldham, Edwin Bronston......................................Lexington.
Parrish, Harvey Douglas.......................................Richmond.
Pence, Mary Belle.................................................Lexington.
Piper, Mary Hammond...........................................Lexington.
Riggs, Schultz.......................................................Calhoun.
Rodes, William......................................................Lexington.
Samuel, Robert Lovell...........................................Maysville.
Sanders, Hugh Berkley..........................................Kirkwood.
Scherffius, Cleveland Hendricks...........................Lynnville.
Sims, Robert Lee...................................................Lexington.
Short, Thompson Bailey.........................................Butte, Mont.
Shultz, Oscar Lewis...............................................Hartford.
Shultz, William Claude..........................................Hartford.
Slade, Theodore.....................................................Lexington.
Smith, Ina Kay.......................................................Lexington.
Steele, Arthur Winslow..........................................Yarnallton.
Thomson, Lucy Wheeler.........................................Lexington.
Townsend, William................................................Glensboro.
Wallace, Henry Buford...........................................Lexington.
Wallace, Leonard DeLong......................................Lexington.
Webb, Edgar Hedges...............................................Sadieville.
Wells, Frank..........................................................Bardstown.
Wilson, James Hardin.............................................College Hill.
Worthington, Elmer Francis...................................Morgan.

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NAMES OF ALUMNI OF 1905, OMITTED ON PAGE 109 OR 110.

Shipp, Joel Fithian, B. M. E., ...............................Norwood, O.
Sprake, James Breckinridge, B. M. E.,. .................Pittsburg, Pa.
Stiles, Elijah V. Bland, B. C. E.,...........................Hodgensville.
Thomas, Bennett, B. M. E., ...................................Lexington.
Tomlinson, Hugh Joseph, B. M. E.,,.......................Wilkinsburg, Pa.
Tye, Rachel, A. B.,,...............................................Polleyton.

Urmston, Henry Howard, B. M. E., ............................ Jackson, Tenn.
Wallis, Charles Reese, B. M. E., ............................ Norwood, Mass.
Walsh, Robert Bright. A. B., ............................ Heidelberg, Ger.
Wathen, Sallyneill, B. S., ............................ Louisville.
Weaver, Walter Simeon, B. Agr., ............................ Bronson.
Webb, Elzie, B. C. E., ............................ Covington.
Werness, Inga Marie, B. S., ............................ Louisville.
West, Howard Murphy, B. M. E., ............................ Nicholasville.
Woerner, Emma Josephine, B. S., ............................ Louisville.
Wood, Hugh Nelson, B. C. E., ............................ Lexington.
Woosley, Herman, B. Agr., ............................ Lexington.
Wright, Charles Roy, B. C. E., ............................ Stanford.

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## STUDENTS IN PEDAGOGY.

### SENIOR.

Fish, Clarence Breckinridge.. ..........Lexington.. .........Fayette.

### JUNIORS.

McPherron, Robert Lee....................Somerset..............Pulaski.
Stiles, Imogen ..................................Chicago ...............Ill.

### FRESHMEN.

Edwards, Richard Alec.............. .......Boydsville...........Graves.
Lambert, Mortimer Richard.............Sault St. Marie....Ontario.
Patrick, Wellington ..........................Netty...................Magoffin.
Webb, Edgar Hedges......................Sadieville.............Scott.

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## SUMMARY.

| Collegiate Students. | Scientific. | Classical. | Civ. Eng. | Mech- Eng. | Min. Eng. | Pedagogy. | Agricult. | Class Totals. |
|---|---|---|---|---|---|---|---|---|
| Post-Graduates ........... | 3 | 3 | 3 | 1 | .. | .. | 1 | 11 |
| Seniors .................... | 8 | 20 | 22 | 17 | .. | 1 | 4 | 72 |
| Juniors .................... | 6 | 24 | 12 | 43 | 6 | 2 | 3 | 96 |
| Sophomores .............. | 13 | 24 | 26 | 46 | 2 | .. | 8 | 119 |
| Freshmen ................. | 18 | 17 | 38 | 78 | 6 | 4 | 6 | 167 |
| Department Totals... | 48 | 88 | 101 | 185 | 14 | 7 | 22 | 465 |

| | |
|---|---|
| Collegiate Students ...................... | 465 |
| Special Student ........................ | 1 |
| Students of Short Course in Agr......... | 10 |
| Normal Students ........................ | 129 |
| Academy Students ...................... | 115 |
| Summer School Students ................. | 181 |
| Whole number .................. | 901 |

# REGULATIONS.

### PUBLIC EXERCISES.

All exercises assigned for commencement or any other public occasion must be submitted to the President for approval at least one week before the time for the performance; and, if any student shall deliver an address, or part of an address, which has not been approved by the President, his diploma and his degree, if any has been awarded, may be withheld.

### TRAVELING EXPENSES OF STUDENTS.

By the terms of the recent legislation upon the Agricultural and Mechanical College of Kentucky, a county appointee is entitled to have his traveling expenses from his home to the College and return paid by the College on the following conditions:

1st. He must be appointed according to law, a copy of which is in the hands of each County Superintendent of Schools.

2nd. He must travel from home to the College by the shortest, least expensive, and most expeditious route, and take receipts for all necessary expenses of travel, depositing the same, upon arrival, with the President of the College.

3d. He must present himself for matriculation within one week after the beginning of the fall term of the collegiate year.

4th. He must bring a certificate of good moral character, signed by two or more well-known and responsible citizens of his county.

5th. He must pass creditably the entrance examination required for admission.

6th. He must remain a student of the College for ten consecutive months, or one collegiate year.

7th. He must maintain during the collegiate year a good moral character, and such class standing as shall enable him to pass all final examinations.

8th. He must sign a declaration at the end of the collegiate year that he has not knowingly violated any of the regulations involving his moral character as a student, nor been a party directly or indirectly to the injury of property on the College grounds or in the College buildings.

If at the end of the collegiate year the foregoing canditions have been complied with, the President of the College shall certify the fact to the Treasurer of the College, who, upon said certificates as vouchers shall pay to the appointee the amount shown by the receipts aforesaid and in addition thereto the sum for discharging the necessary expenses to be incurred in returning home.

## COLLEGE EXPENSES.

The necessary expenses of a student while at College need not exceed the following estimates. As a rule the less pocket money allowed by parents or guardians the better it is for the pupil. When supplies of pocket-money are kept short the opportunity for contracting vicious habits is correspondingly diminished. Students should not be allowed by their parents to create any debts. All money intended for the use of the students should be deposited with the Commandant.

For a county appointee, occupying a room in the dormitory, the necessary expenses are as follows:

| | |
|---|---|
| Tuition free | $00.00 |
| Matriculation free | 00.00 |
| Gymnasium free | 00.00 |
| Room rent free | 00.00 |
| Use of furniture | 2.50 |
| Washing, about | 10.00 |
| Uniform | 16.00 |
| Books, about | 10.00 |
| Total | $38.50 |

Board in clubs, $2 per week; in families, $3 to $4. For students not county appointees the necessary expenses are:

| | |
|---|---|
| Tuition for Mechanical, Civil, Electrical and Mining Engineering | $40.00 |
| Tuition for Classical. Scientific and Normal School Courses | 25.00 |
| Matriculation fee | 5.00 |
| Gymnasium fee | 5.00 |
| For each laboratory, fee | 5.00 |
| Washing, about | 10.00 |
| Room and furniture | 20.00 |
| Uniform | 16.00 |
| Books, about | 10.00 |

Board in clubs, about $2.00 per week ; in families, $3 to $4. All who occupy rooms in dormitories make a deposit of $5 to cover damage done during their occupancy. This is refunded at the close of the year, less the amount of damage assessed against the depositor.

Board and lodging are provided in Patterson Hall for young women, at $3 per week, they furnishing their own bed clothes and towels. This handsome three-story building, a fourth of a mile from the College, can accommodate 125 students.

## DIPLOMA

By order of the Board of Trustees a fee of $5 will hereafter be charged for each diploma issued by the College.

## FREE TUITION, BENEFICIARIES.

Each Legislative Representative District is allowed to send, on competitive examination, *one properly prepared student* each year to this College, free of charge of tuition.

[A statement for the guidance of County Superintendents: 1. If the county forms one or more than one Legislative Representative District, each district is entitled to keep four students in the College and four in the Normal School free of tuition.

2. If a Legislative Representative District embraces more than one county, each county is entitled to keep four students in the College and four in the Normal School free of tuition.]

Beneficiaries are appointed on competitive examination. A Board of Examiners is appointed for this purpose by the County Superintendent of common schools. The results of examination are reported to the Superintendent, who from the data thus furnished selects the appointee. Examinations are made upon subjects transmitted to the County Superintendent by the Faculty of the College. One appointment is made each year.

Appointments are made by the County Superintendent between the first day of June and the first day of August of each year. Appointments when made should be immediately certified to the President of the College.

Appointments for the College proper, viz., the Agricultural, Mechanical Engineering, Civil Engineering, Scientifie, Classical, and Normal Collegiate courses, are all valid for the term of years necessary to complete the course of study in which the appointee matriculates. This includes the course in the Academy.

It follows from the above that a county which makes its appointments regularly according to law will have for the session of 1901-2 one appointment to the College; for the session of 1902-3 two appointees; for the session of 1903-4 three appointees; for the session 1904-5 four appointees. When the first appointee completes his course, or ceases to be a student, another appointee takes his place. When the quota of a county is full it will have at least four appointees in regular attendance.

Each appointee is required to pass an entrance examination at the College on the subjects comprising all that is embraced in Arithmetic, English Grammar, Geography, and United States History in the common school course.

All persons are eligible between the ages of fourteen and twenty-four who have completed the common school course—preference being given to young men or women whose means are limited, to aid whom this provision is especially intended.

Any person not an appointee may enter the college on payment of fees, but no one who is not an appointee receives traveling expenses or is exempt from the payment of fees.

## APPOINTEES TO THE NORMAL COURSE.

The law makes provision for the appointment of four teachers, or persons preparing to teach, each year. Appointments may be made and certified to the President of the College between the first day of July and the thirty-first day of December of each year.

Appointments to the Normal School are tenable for one year.

Applicants for appointments are examined by a Board of Examiners appointed by the County Superintendent on subjects transmitted by the Faculty, viz.: upon Arithmetic, English Grammar, United States History, and Geography. They should not be less than seventeen years of age. They are also required to pass an entrance examination at the College. They must likewise bring certificates of good moral character.

Matriculates of the Normal Department will be required to sign an obligation to teach in the common schools of Kentucky for as many months as they receive free tuition.

## SPECIAL COURSES OF STUDY.

Special courses of study are not provided for in the Academy, the Normal School, or the College proper; provided, however, that persons who have passed the age of twenty-four years, the limit below which appointments as beneficiaries under the law must be made, may under certain conditions be allowed to pursue selected studies without matriculating in one of the regular courses of the College.

## CHANGE OF CLASSIFICATION.

No student shall be allowed to change his or her course of study from one department of the College to another, until he or she shall have completed and passed a satisfactory examination on each subject hitherto studied in the department of which he or she is a matriculate; and no change of courses shall be permitted during the current year.

## ACCREDITED SCHOOLS.

Schools, whether public or private, may be accredited in accordance with a resolution of the Faculty providing that graduates of these may be exempted from entrance examination to the College when the heads of these schools have complied with certain conditions.

Further, the Board of Trustees have made an annual award of a free scholarship to the pupil in each accredited school who has completed the certified course with the highest class standing. This scholarship entitles the recipient to free tuition. If, in addition, the holder of a scholarship obtains the "County Appointment," he is entitled to free room in one of the dormitories and free traveling expenses.

A revised list of these schools is appended:

## PUBLIC HIGH SCHOOLS.

| *Schools.* | *Superintendents.* |
|---|---|
| Ashland | J. C. Crabbe. |
| Augusta | J. R. Sterrett. |
| Bellevue | H. L. Eby. |
| Brookville | Walter Stuart. |
| Carlisle | R. H. Shipp. |
| Carrollton | J. W. Taylor. |
| Catlettsburg | J. B. Leech. |
| Cloverport | J. P. King. |
| Corydon | J. W. McGregor. |
| Covington | C. M. Merry. |
| Cynthiana | C. A. Leonard. |
| Dayton | |
| Dixon | S. G. Boyd. |
| Elizabethtown | E. E. Olcott. |
| Elkton | H. L. Trimble. |
| Eminence | J. C. Gordon. |
| Falmouth | E. B. Buffington. |
| Finchville | Leon Morton. |
| Flemingsburg | W. G. Hart. |
| Frankfort | H. C. McKee. |
| Fulton | J. C. Cheek. |
| Greenville | S. L. Frogge. |
| Harrodsburg | C. W. Bell. |
| Henderson | L. McCartney. |
| Hickman | B. F. Gabby. |
| Hopkinsville | B. Hamlet. |
| Horse Cave | |
| Kenilworth, Ill | |
| Lancaster | J. E. Mannix. |
| Lawrenceburg | H. V. Bell. |
| Lexington | M. A. Cassidy. |
| Little Rock, Ark | D. W. Torreyson. |
| Louisville, M. H. S. | R. P. Halleck. |
| Louisville, F. H. S. | W. H. Bartholomew. |
| LouisvilleMan.T.H.S. | E. P. Chapin. |
| Ludlow | C. D. Walden. |
| Marion | V. G. McKee. |
| Maysville | O. S. Clinger. |
| Middlesboro | M. O. Winfrey. |
| Midway | |
| Morganfield | A. C. Burton. |
| Mt. Sterling | H. M. Gunn. |
| New Castle | G. L. Waterbury. |
| Newport | C. L. Hammond. |
| Nicholasville | R. G. Lowrey. |
| Orange, N. J | |
| Owensboro | Mc. H. Rhoads. |
| Owenton | |
| Paducah | C. M. Leihl. |
| Paris | G. W. Chapman. |
| Pembroke | C. E. Dudley. |
| Rlchmond | W. H. Brock. |
| Shelbyville | G. L. Sampson. |
| Somerset | J. P. W. Brouse. |
| Stanford | J. W. Ireland. |
| Versailles | T. A. Hendricks. |
| West Point | Miss R. Thurman. |
| Williamstown | W. G. Welborn. |
| Winchester | R. M. Shipp. |

## PRIVATE HIGH SCHOOLS.

Alton, Private School, Miss M. E. Fiddler, Principal.
Auburn, Seminary, W. L. Harris, Principal.
Bardstown, Nelson Normal High School, E. N. Fulton, Principal.
Campbellsburg High School, J. W. Pearcy, Principal.
Covington Rugby School, K. J. Morris, Superintendent.
Cynthiana, Smith's Classical School, W. E. Selin, Principal.
Danville, Va. Military Institute, Campbell and Snyder, Principals.
Elkton, Vanderbilt Training School, J. H. Harrison, Principal.
Franklin, Preparatory School, Luna and Perry, Principals.
Fulton, Carr Institute, T. N. Wells, Principal.
Harrodsburg Academy, W. W. Ensminger, Principal.
Hartford College and Business Institute, J. J. Morton, President.
Hazel Green Academy, W. H. Cord, President.
Hodgenville, Kenyon College, J. C. Pirtle, President.
Hopkinsville, South Kentucky College, A. C. Kuykendall, President.
Jetts Academy, Mrs. Mary Crutcher, Principal.
Knoxville, (Tenn.), Baker-Himil School, C. M. Himil, Principal.
Leitchfield, High School, W. G. Losey, Principal.
Lexington, Private School, Miss Ella Williams, Principal.
Lexington, Private School, Miss Lucy Collier, Principal.

Lexington, Campbell-Hagerman College, B. C. Hagerman, President.
Lexington, Sayre Institute, J. M. Spencer, Principal.
London, Sue Bennett Memorial School, J. C. Lewis, Principal.
Louisville, St. Xavier's College, Bro. James, Principal.
Louisville, University School, W. W. Tharp, Principal.
Louisville, Boys' School, Davenport and Patterson, Principals.
Louisville, Semple Collegiate Institute, Miss Anna J. Hamilton, Principal.
Maysville, Private School, Miss Fannie I. Gordon, Principal.
Middleburg, Normal College, J. S. Lawhorn, Principal.
Millersburg, Military Institute, C. M. Best, Principal.
Murray, Male and Female Institute.
Newport, Academy Notre Dame of Providence, Mother Maria.
Nicholasville, School for Boys, T. B. Threlkeld, Principal.
Richmond, Madison Female Institute, A. P. Simmons, Principal.
Russell Springs Academy, U. G. Hatfield, Principal.
Stanford, Male and Female Academy, O. B. Fallis, Principal.
Versailles, Training School for Boys, W. O. Vaught, Principal.
Versailles, Rose Hill Academy, M. G. Jesse, Prinoipal.
Versailles, Margaret Hall, Miss E. C. Hogeboom, Principal.

Upon application, printed forms will be sent to the heads of schools who may desire to have them placed in the list of the accredited schools. These forms are to be filled out with an announcement of the courses of study and mailed to the Chairman of the Committee on Accredited Schools at the State College.

Only pupils from duly accredited schools will be admitted to the College without examination, and *they* must present a certificate from their superintendent or principal, and it must bear the signature of the President of the State Coilege.

Every pupil who completes an accredited course is entitled to a certificate attesting the fact, and heads of schools in the foregoing list will oblige the College Committee on Accredited Schools by sending promptly their recommendations for certificates and scholarships.

*German.*—After September 1, 1907, one year of German will be required for admission to the Freshman class of all courses in the State College. A second year will be added later.

## MANUAL LABOR.

The work necessary for carrying on the agricultural and horticultural operations of the College is done by the students, and is paid for at rates varying from six to ten cents per hour. Its design is two-fold: to put in practice the instruction received in the class-room, and to assist students who are in need of money. The experience of this College is that of Agricultural Colleges generally—that compensated labor is not renumerative to the College.

*The College assumes no obligation to furnish students an opportunity to labor for compensation.*

Students are paid monthly for the service rendered, and apply the money as they see proper.

*No student, however, should come to this College expecting to maintain himself exclusively by compensated labor. At least seventy-five dollars per annum, exclusive of his earnings while here, should be at the command of every student who wishes to avail himself of the advantages of the system of compensated labor.*

### CERTIFICATES OF CHARACTER.

All applicants for admission into any class of the College or Academy must bring satisfactory testimonials of good moral character.

### THE MONITRESS.

The young women who attend the College have assigned for their exclusive use a large and well appointed study-room. Here, while they are not engaged in the class-rooms or in the chapel, they are under the constant and strict supervision of the Monitress, Mrs. Blackburn, who has long been connected with the College and is well qualified for her duties.

### ENLISTMENT OF CADETS.

By a resolution of the Faculty, approved by the Board of Trustees, no cadet of the State College is allowed to enlist in the State Guards.

### RULES OF CLASSIFICATION.

1. No student shall be considered as belonging to a given class, unless he takes at least three studies selected in that class or in a higher.
2. No student shall pass into a higher class while he has to make up studies required of him in the preceding year.
3. Students may be permitted, by the Deans of their courses and the Professors with whom they take their major studies, to register for studies not more than one year in advance of their classifications.

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## Y. M. C. A.

This body occupies a spacious room in the Gymnasium. The room, which is well lighted and heated, and provided with suitable furniture, offers to the members a place both attractive and convenient in which to spend their leisure time in religious service, in Bible or secular reading, or in playing harmless games.

During the last year, the students, the Faculty and the Board of Trustees contributed $525 for ornamenting and furnishing the hall, and for magazines and telephones.

The Association has 80 members, and to promote still more effectively the important, the imperative work of improving the moral and religious life of the students, has employed a secretary.

# THE STATE COLLEGE SUMMER SCHOOLS.

## FIFTH SESSION.

## 1907.

These seven schools, which offer more than forty courses of instruction through text-books, lectures, and the best laboratories in the State, afford teachers, college students and those who are preparing for college, a rare opportunity for inexpensive study.

### I. THE SCHOOL OF TEACHERS.

PROFESSORS M. WHITE, NOE, PRYOR, PENCE AND FLESHMAN.

The Fifth Session will open Monday, June 10th and continue six weeks.

The work is specially designed to prepare teachers for examination for the County Certificate, the State Certificate, and the State Diploma. It embraces also Free-hand Drawing and Nature Study.

By act of the late General Assembly, teachers who attend this School four weeks or more are not required to attend any Teachers' Institute the same year. Certificates of attendance are issued.

A single fee of $6 is required at registration. No rebate is allowed for absence.

Women have elegant rooms in Patterson Hall *free* and board for $3 a week. Men have rooms in the College dormitories *free*. Board can be had near the College for $2 or $3 a week. All students furnish their towels and bedding and men their mattresses. Total expense for six weeks, from $18 to $24, laundry and books not included.

For further information apply to Milford White, Lexington, Kentucky.

### II. THE SCHOOL OF PHYSICS.

PROFESSOR PENCE.

*Courses Offered*—1. A Course in Elementary Physics required for admission to the Freshman Class of the College. Gage's Elements of Physics will be completed. 2. A Course in Theoretical Physics, embracing the Properties of Matter, Mechanics, Sound, Heat, Light, Electricity and Magnetism, with experiments, lectures and recitations one hour daily. Text-book, Gage's Elements of Physics. 3. A Course in the Physical Laboratory, the work being that given in Gage's Physical Experiments, and requiring from three to five hours daily. Students in Course 1 may also take Course 2, and those in either course should have a good knowledge of Arithmetic and Elementary Algebra, and some knowledge of Plane Geometry and Plane Trigonometry. The work is designed to shorten or lighten the work in the College, and credit is given for it. Students properly prepared may undertake more advanced work corresponding to that of the Junior or

the Senior class. 4. A Course in X-ray work is offered to Physicians and others who may wish to operate X-ray machinery and do work in X-ray photography, with practice in photographing fractures. dislocations, necrosis, stone in the bladder or kidney, gall stones, bullets or other foreign bodies.

Time. three weeks; fee, $25. Fee for Course 1, $10; for Course 2, $10; for Course 3, $12; for Course 1 or 2 and Course 3, $20.

The Department of Physics is supplied with all necessary apparatus, including a first-class X-ray outfit. Students have opportunity to learn something of X-rays, radium and wireless telegraphy.

The courses will extend from June 10th to July 19th. Correspondence solicited.

### III. THE SCHOOL OF PHYSIOLOGY.

DR. PRYOR.

The Course in Physiology, consisting of lectures, demonstrations and laboratory exercises, is intended to illustrate the fundamental laws of physiology and the phenomena on which they are based. The subjects to be considered are: Muscle, its appearance, histology, chemical composition and physiology; Haemodynamics, the circulation of the blood and lymph; Normal Haematology, clinical examination of the blood and blood corpuscles, the Anatomy and Physiology of the eye and ear.

Credit is given in the College for work done in the school.

The course will begin June 10th and end July 19th. Fee, $10.

### IV. THE SCHOOL OF LIBERAL ARTS.

PROFESSORS DAVIS AND JONES, ASSISTANT WHITLOCK.

The session extends from June 10th to August 2nd.

The purpose of the school is to help students—

1. Remove conditions from their work in the College.
2. Even up work neglected through irregular classification.
3. Shorten or lighten their work in the College.
4. Prepare for the entrance examination in September.
5. Review their studies in accredited schools.

The instruction embraces—

1. The College Courses in Mathematics, Astronomy, English, Greek Latin, French, German, Spanish, History, and Anglo-Saxon.

2. The Academy courses in all the subjects preparatory to either year of the Academy or to the Freshman Class of the College.

Last summer instruction was given in all these subjects, and more than four-fifths of our students passed.

Students prepared for any College or University.

Fee for each subject, in advance, $7.50.

For bulletin of information address—

J. MORTON DAVIS or T. T. JONES, Lexington, Ky.

## V. THE SCHOOL OF MECHANIC ARTS.

PROFESSORS ANDERSON AND WILSON.

Instruction will be given specially in Mechanical Drawing, Steam Engineering, Applied Electricity, Machine Design, Materials of Construction, Transmission of Force, Shop Work, Mathematics and English.

The courses are designed for Machinists, Carpenters, Metal Workers, Engineers, Firemen, Superintendents of Electric Light Plants or of public buildings having power plants; artisans of all classes, and especially for young men who intend to take up engineering, or for high-school and other students who may wish to shorten or to lighten the work of the four years' course in college. Night sessions are held from 7 to 10, except Saturdays.

Students admitted without examination.

The session begins June 19th and ends August 3rd. Fee, $25.

For information address the Registrar,

A. M. WILSON, Lexington, Ky.

## VI. THE SCHOOL OF CIVIL ENGINEERING.

PROFESSOR ROWE, ASSISTANT PROFESSOR CARREL.

Courses will be offered in—

1. *Structural Drafting*—The course embraces fifteen plates of structural detail, nearly every detail met in actual practice.

2. *Plane Surveying*—An elementary course in land surveying, and in the use of surveying instruments. Recitations, lectures, and field work involving practice in the use of chain, tape, compass, transit and level.

3. *Graphic Statics*—Principles and methods; roof and bridge trusses; locomotive wheel loads; trusses with broken chords; miscellaneous trusses.

4. *Railway Engineering*—Location of curves; compound curves; changing radius; shifting curve; turnouts from straight or curved track; sidings and crossovers; location and earth-work computation.

5. *Roof and Bridge Design*—Theory and design of roofs, bridges, stand pipes, towers and other structural problems.

6. *Stone Cutting*—Plane-sided surfaces; structures containg developable, warped, or doubled-curved surfaces.

The session will begin June 10th and end July 19th.

A fee of $10 will be charged for any one course, and $5 for each additional course. Rooms free; table board from $2 to $3 per week.

For further information send for the State College catalogue or write to

W. E. ROWE, 518 Rose Street; or to

W. J. CARREL, 343 S. Upper Street,

Lexington, Ky.

## VII. THE SCHOOL OF CHEMISTRY.

ASSISTANT PROFESSOR MAXSON.

Courses—

I. In Elementary Chemistry, Inorganic—Descriptive Chemistry of the non-metals and metals, with the fundamental laws of the science. By lectures and recitations. *One hour daily.*

II. Chemistry of the Metals—Reactions of the more common metals, with their analytical applications. In the laboratory. *Two hours daily.*

III. Qualitative Analysis—The identification of ions. Examination of salts, alloys and industrial products. *Three honrs daily.*

IV. Inorganic Preparations—Salts used in the laboratory, or of commercial importance, made. By-products and laboratory residues. Practice in the methods of preparation. *Four hours daily.*

V. Gas Analysis—Methods for analyzing gases and for their application studied in the laboratory. *Three-hour periods, thrice a week.*

VI. The Carbon Compounds—Instruction based on the material in Remsen's Organic Chemistry. By lectures and recitations. *One hour daily.*

VII. Chemical Theory—Theories involving the Periodic Law, the Determination of Atomic and Molecular Weights, Dissociation and Balanced Actions, Molecular Complexity, Electrolytic Dissociation, Osmotic Pressure, Velocity of Reactions, etc. *One hour daily.*

Courses I and II are for those who are to teach elementary chemistry, and for conditioned students.

Fees: Courses I, II, III, IV and V, $10 each; for courses VI and V11, $7 each, all payable in advance.

For further information address

R. N. MAXSON, 522 Rose St., Lexington, Ky.

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Summer schools, as auxiliaries of the universities and the larger colleges, have proved to be so serviceable and popular that provision for them, on a scale more and more ample, is made from year to year. At the great and wealthy Columbia University, of New York, for example, eighty-six professors and assistants announce courses of study in as many different subjects for their present summer session. In the rush and hurry of American life and amid the insane pursuit of money, which engages so many of the American people, economy of time is becoming all the while more and more a vital matter, and the summer school is one of the indispensable devices for saving time. Many a dull or lazy student who has failed in his final examinations at College. may, by a few weeks of hard study in the Summer School, make good his deficiencies, go on with his class and avoid an additional year at College; many another student may, in the same way, ensure his admission to College in September; and still others may by anticipation greatly lighten the work of the over-loaded curriculum. Teachers especially, and others who cannot attend the College, find much compensation in the Summer School.

The earnest and able professors who take part in the Summer Session of the State College will be seconded in every way by the authorities in their efforts to make the Summer School still more profitable and successful.

## CALENDAR.

### 1907.

| | |
|---|---|
| Summer Schools open | from June 10th to Aug. 3. |
| Entrance Examinations begin | Thursday, September 5th. |
| First Term begins | Thursday, Sept. 12th. |
| Thanksgiving | Thursday, Nov. 28th. |
| Board of Trustees meet | Tuesday, Dec. 10th. |
| Christmas Holidays begin | Saturday, Dec. 21st. |

### 1908.

| | |
|---|---|
| Second Term begins | Thursday, Jan. 2nd. |
| Second Term of the Academy begins | Monday, Jan. 20th. |
| Washington's Birthday | Friday, Feb. 22d. |
| Union Society Contest | Friday, Feb. 22d. |
| Third Term begins | Monday, March 16th. |
| Patterson Society Contest | Thursday, March 26th. |
| Final Examinations begin | Monday, May 25th. |
| Board of Trustees meet | Tuesday, June 2nd. |
| Class Day | Wednesday, June 3rd. |
| Alumni Banquet | Wednesday, June 3rd. |
| Commencement | Thursday, June 4th. |

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## COLLEGE DIRECTORY.

| | Residence. | College Quarters. |
|---|---|---|
| Anderson, F. Paul | 147 Kentucky Avenue | Mechanical Hall. |
| Ball, Homer W | Rose Street | Weather Bureau, College. |
| Blackburn, Mrs. Lucy B | 630 Central Avenue | 14, First Floor, Collage. |
| Burtt, Wilson B | Patterson Hall | Gymnasium. |
| Carrel, William J | 343 S. Upper Street | Mech. Hall and Old Dorm. |
| Davis, J. Morton | 20 Park Place | 2, Basement, College. |
| Dicker, Joseph | 28 Virginia Avenue | Mechanical Hall. |
| Fleshman, Arthur C | 356 Rose Street | 4, Basement, College. |
| Frankel, Leon K | 204 East High Street | Mechanical Hall. |
| Frazee, David C | 401 West Maxwell Street | 13, First Floor, College. |
| Gilbert, Alfred H | 628 South Limestone | Science Hall. |
| Ginochio, John B | 240 Lexington Avenue | 13, First Floor, College. |
| Ham, Clarence W | 420 South Broadway | Mechanical Hall. |
| Hooper, John J | 609 South Limestone | First Floor, Science Hall. |
| Jamison, Knox | 341 South Limestone | 16, Second Floor, College. |
| Jones, Mrs. Anna B | 359 Aylesford Place | Mechanical Hall. |
| Jones, Theodore T | 600 Rose Stieet | 20, Third Floor, College. |
| King, Miss Margaret I | 225 South Limestone | 10, First Floor College. |
| Kinkead. Miss Elizabeth S | 243 West Second | Mechanical Hall. |

| | | |
|---|---|---|
| McCann, Miss Sue D | 137 East High | Science Hall. |
| McGregor, Alfred G | Aylesford Place | 17, Second Floor, College. |
| Mackenzie, A. St. Clair | Reed Hotel | 19. Second Floor, College. |
| Marshall, Miss Isabella W | Patterson Hal l | Patterson Hall. |
| Mathews, Clarence W | 660 South Limestone | First Floor, Science Hall. |
| Maxson, Ralph N | 522 Rose Street | Chemical Building. |
| Miller, Arthur M | 609 South Limestone | First Floor, Science Hall. |
| Milligan, Richard A | 814 South Limestone | Mechanical Hall, rear. |
| Mustaine, W. Walter H | 341 South Limestone | Gymnasium, First Floor. |
| Neville, John H | 722 West Main | 21, Third Floor, College. |
| Noe, James T. C | 211 West Maxwell | 11, First Floor, College. |
| Nollau, Louis E | 420 South Broadway | Mechanical Hall. |
| Norwood, Charles J | 339 Aylesford Place. | Third Floor, Science Hall. |
| Noyes, G. Harold | 19 Clay Avenue | Weather Bureau, College. |
| Patterson, James K | President's House | 12, First Floor, College. |
| Patterson, Walter K | President's House | 17, Second Floor, College. |
| Pence, Merry Lewis | 108 Merino Street | 5, Basement, College. |
| Pryor, Dr. Joseph W | 261 North Broadway | Second Floor, Science Hall. |
| Purdom, J. Leslie | 304 South Limestone | 24, Third Floor, College. |
| Rowe, Walter E | 518 Rose Street | Mechanical Hall. |
| Spillman, Asher G | 244 Rodes Avenue | Second Floor, Science Hall. |
| Stout' Mrs. Florence O | Versailles | Second Floor, Gymnasium. |
| Tuttle, Franklin E | 125 East Maxwell | Chemical Building. |
| Wallis, Carrie E | Patterson Hall | Patterson Hall. |
| Webb, William S | Greendale | 6, Basement, College. |
| White, James G | 158 East Maxwell | 15, First Floor, Colfege. |
| White, Miss Martha R | 158 East Maxwell | 1, Basement, College. |
| White, Milford | 112 East Maxwell | 9, First Floor, College. |
| Whitlock, Albert N. | 343 South Upper Street | 23, Third Floor, College. |
| Wilson, Alexander M | 246 Rodes Avenue | Mechanical Hall. |
| Zembrod, Alfred C | 456 West Fourth Street | 18, Second Floor, College. |

## EXPERIMENT STATION DIRECTORY.

| | | |
|---|---|---|
| Allen, R. M | 609 South Limestone Street | First Floor Exper. Station |
| Averitt, S. D | 341 South Limestone Street | First Floor Exper. Station |
| Curtis, H. E | 355 Linden Walk | First Floor Exper. Station |
| Didlake, Miss Mary L | 481 East Main Street | Second Floor Exper. Station |
| Garman, Harrison | 638 South Limestone Street | Second Floor Exper. Station |
| Ginochio, Miss O. L | 240 Lexington Avenue | First Floor Exper. Station |
| Good, E. S | 609 South Limestone Street | Second Floor Exper. Station |
| Hart, B. R | Versailles Pike | First Floor Exper. Station |
| LaBach, J. O | Y. M. C. A. Building | First Floor Exper. Station |
| Liston, Miss Lillie | 270 South Limestone Street | First Floor Exper. Station |
| Nutter, J. W | 149 Lottie Street | Experiment Station Dairy |
| Peter, Alfred M | 268 East Maxwell Street | First Floor Exper. Station |
| Roberts, George | 618 South Limestone Street | First Floor Exper. Station |
| Scherffius, W. H | 149 Washington Avenne | Second Floor Exper. Station |
| Scovell, M. A | Experiment Station Farm | First Floor Exper. Station |
| Shedd. O. M | 348 Linden Walk | First Floor Exper. Station |
| Turuer, J. D | 120 East Maxwell Street | First Floor Exper. Station |
| Vaughn, E. C | 660 South Limestone Street | Second Floor Exper. Station |
| Woosley. H | Experiment Station Farm | Experiment Station Farm |

# APPENDIX.

## I. Statistics of Higher Education in the United States For 1905-1906.

[From the Report of the National Commissioner of Education.]

| | |
|---|---|
| Number of Colleges, Universities, and Schools of Technology | 508 |
| Number of their students (97,738 men; 38,096 women) | 135,834 |
| In Liberal Arts (classical and culture studies) | 81,595 |
| In Agriculture | 4,310 |
| In Mechanical Engineering | 7,426 |
| In Civil Engineering | 7,962 |
| In Electrical Engineering | 5.696 |
| In Chemical Engineering | 1,234 |
| In Mining Engineering | 2,826 |
| In General Engineering | 2,501 |
| In Architecture | 776 |
| In Sanitary Engineering | 82 |
| In Household Economy | 1,730 |
| In Commerce | 1,193 |
| Admitted to A. B. (5,812 men, 3,691 women) | 9,503 |
| Admitted to B. S. (3,893 men, 604 women) | 4,497 |
| Admitted to A. M. (1,024 men, 328 women) | 1,352 |
| Admitted to M. S. (168 men, 15 women) | 183 |
| Varieties of Degrees Conferred | 49 |

Number of pupils in secondary schools 824.447

| | | | |
|---|---|---|---|
| In Latin | 413,595 | In Chemistry | 56,546 |
| In Greek | 15,241 | In Physical Geography | 170,183 |
| In French | 91,688 | In Geology | 21,270 |
| In German | 173,474 | In Physiology | 169,564 |
| In Algebra | 474,628 | In Psychology | 14,091 |
| In Geometry | 233,752 | In Rhetoric | 406,895 |
| In Trigonometry | 17,816 | In English Literature | 416,602 |
| In Astronomy | 11,485 | In History (not of U. S.) | 347,632 |
| In Physics | 127,219 | In Civics | 144,984 |

| | |
|---|---|
| Preparing for College Classical Courses | 46,603 |
| Preparing for College Scientific Courses | 37,630 |

NOTE.—The statistics of the 114 colleges for women of Division B are not included in the above table.

## II. GERMANY AND EDUCATION.

The power of education has never been shown so impressively as in the sudden and stupendous development of the limited resources of the German Empire since 1871.

*I. Natural Resources.*—1. An area of 208,788 square miles (Texas has 265,780; that is, Texas is larger than Iowa (56,025 sq. m.) and the German Empire together.) 2. A good climate, but with little variety. 3. A soil mostly poor (65 per cent. of it cultivated.) 4. No great mineral wealth except in coal, lignite, iron, common and potassic salt, with mnch zinc and considerable copper, lead and silver. 5. Only 300 miles of ocean coast with three harbors; 830 miles of Baltic coast with six harbors. 6. Nine navigable river systems, none of them being large except the Elbe, which is less than the Ohio, and the Rhine, which alone has always water enough for a good navigable river.

*II. Added Resources.*—1. About 60,000,000 of a vigorous, industrious, knowledge-seeking and knowledge-applying race (280 to the square mile.) 2. Thirty-two cities of more than 100,000 inhabitants each, and fifteen of more than 200,000. 3. The largest and finest army in the world (606,000 men in peace, 3,000,000 in war). 4. A navy third in size and possibly second in efficiency. 5. A merchant marine (in 1901) of 3,883 vessels in the ocean service, and 22,564 in the coasting and inland trade, some of Germany's 1390 ocean liners being among the biggsst, fastest, finest ships that cross the seas, and home-built. 6. A commerce second to Great Britain's alone (exports in 1901, $1,094,663,610; imports $1,372,413,910). 7. The best consular service and the best commercial schools to prepare young men in languages and otherwise for foreign trade. 8. Manufactures "unparalleled among the nations, and mostly due to advanced technical education," and embracing, in forms of the highest excellence, nearly all the products needed for the use of man. 9. In 1900, 36,270 miles of railways, and 1519 miles of canals. 10. Agriculture and stock-breeding, to which, however, much less attention is devoted since (in 1871) the Germans turned to commerce, manufactures and ship-building. 11. Forestry. The forests covering a fourth of the surface, and being under State protection and seientific culture, yield a large annual revenue, the forests and public domain of Prussia yielding a yearly average of $20,000,000. 12. The production of books, books on nearly every imaginable subject and in many * languages, Germany producing in 1904, 28,378 works (France 12,139; Great Britain, 8,334; and the United States 8,291). 13. The crowning glory of Germany, the chief source of her growth and power, her schools of all grades, conceded by intelligent educators everywhere to be the best in the world: 59,300 common schools, or about 1,000 to every million of people, with compulsory attendance of pupils, and reducing the average illiteracy of the Empire to $\frac{1}{14}$ of one per cent. (Brandenburg, a part of Prussia, having no illiterates and the Kingdom of Würtemberg none); numerous schools of all grades for girls and young women; (in 1901) 1108 secondary schools, (corresponding

to American colleges), in which, as nowhere else, the foundation is laid for classical knowledge and culture and for a knowledge of all the branches of science; 21 universities of world-wide fame, attracting † students from all the lands of civilized men (more than 5500 foreign students in 1902), universities in which knowledge is diffused by teaching and increased by research; 457 normal schools; many agricultural and forestry schools; 9 great polytechnic schools of the highest order, attended by thousands of foreign students (by more than 4,000 in 1902); and finally, as the consummation of German effort for the application and the extension of science, the Imperial Testing Office, in new and magnificent buildings near Berlin, with many laboratories and experts, for testing, at small expense to manufacturers and inventors, materials, machinery and processes in all the branches of industrial art. In that Testing Office German thoroughness has provided all facilities and appliances for every kind of scientific experimentation and research.—Amazing results for a small country of meager resources, results which one word explains, and that word is—EDUCATION.

"To-day in industrial production Germany stands in the front rank of the nations, and in the applications of science clearly leads them all"—H. S. Pritchett, President of The Massachusetts Institute of Technology.

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*At Brockhaus's, Leipsig, in 1868, I was told that they printed books in 33 languages

†The University of Berlin had, in 1904, 13,782 students.

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### III. KENTUCKY AND EDUCATION.

In 1900, Kentucky had 12.8 illiterates in each 1000 white persons of 10 years or more, a percentage greater than that of any other State except Tennessee, the Carolinas, Alabama and Louisiana, and 18 times as great as that of the German Empire. But our inferiority to Germany in education is immeasurably greater than this difference of mere illiteracy implies, for even the best educated portions of the American people have relatively few men of great learning or knowledge, while the Germans have many, far more in fact than any other people ever had.

' De l'audace, et encore de l'audace, et toujours de l'audace!" cried Danton at a crisis in the French Revolution. "Schools, and again schools, and always schools" should, in *our* crisis, be the incessant demand of every Kentuckian, man or woman, who desires the supreme welfare of the State; who is ashamed that Kentucky continues to be disgraced by ignorance, and by its concomitants, poverty, lawlessness, vice and crime; and who would have the State to stand in knowledge not, as now, sixth from the bottom of the roll of States, but near the top, as the peer of the proudest and most enlightened of her sister commonwealths.

Kentucky needs 2000 first-rate common schools, 200 first-rate high schools, and, to crown all, a university as good as Virginia's or Missouri's, as good as Michigan's or Wisconsin's, and she cannot have the lowest of these classes of schools without both the others, for the State that neglects higher education necessarily makes poor provision for lower. And these sorely needed schools will be the result, not of occasional and spasmodic effort but of slow and steady evolution. All the conferences and conventions, all the speeches and resolutions from now till the crack of doom will avail little unless they are followed up with persistent appeals to the people, by tongue and pen, county by county, and man by man, till Kentuckians learn the lesson taught by Germans, and that lesson is that the path to true national grandeur lies through great knowledge faithfully applied, and moreover that the income from education vastly exceeds the outlay for it. N.